THE CHILDHOOD OF THE WORLD

EDWARD CLODD

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THE CHILDHOOD OF THE WORLD

A SIMPLE ACCOUNT OF

MAN'S ORIGIN AND EARLY HISTORY

BY

EDWARD CLODD

NEW EDITION, REWRITTEN AND ENLARGED

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PREFACE TO THE FIRST EDITION

For the information of parents and others into whose hands this book may fall, it may be stated that it is an attempt, in the absence of any kindred elementary work, to narrate, in as simple language as the subject will permit, the story of man's progress from the unknown time of his appearance upon the earth, to the period from which writers of history ordinarily begin.

That an acquaintance with the earliest known races of man should precede the study of any single department of his later history is obvious, but it must be remembered that such knowledge has become attainable only within the last few years, and at present enters but little, if at all, into the course of study at schools.

Thanks to the patient and careful researches of men of science, the way is rapidly becoming clearer for tracing the steps by which, at evervarying rates of progress, the leading races have advanced from savagery to civilization, and for thus giving a completeness

to the history of mankind which the assumptions of an arbitrary chronology would render impossible.

As the Table of Contents indicates, the First Part of this book describes the progress of man in material things, while the Second Part seeks to explain his mode of advance from lower to higher stages of religious belief.

Although this work is written for the young, I venture to hope that it will afford to older persons who will accept the simplicity of its style interesting information concerning primitive man.

In thinking it undesirable to encumber the pages of a work of this class with foot-notes and references, I have been at some pains to verify the statements made, the larger body of which may be found in the works of Tylor, Lubbock, Nilsson, Waitz, and other ethnologists, to whom my obligations are cordially expressed.

I am fully conscious how slenderly each department of human progress has been dealt with in this work, but in seeking to compass a great subject within a small space, it has been my anxiety to break the continuity of the story as little as possible.

E. C.

133, Brecknock Road, London:
December, 1872.

PREFACE TO THE PRESENT EDITION

So enormous has been the advance of knowledge concerning primitive man since this book was written forty-one years ago that, as it is still in demand, the necessity is borne-in upon me either to mend it or end it.

I have chosen the former course, and shall be well content if the work which this has entailed has recompense in the revised edition finding as welcoming an audience as the original had the good fortune to secure.

STRAFFORD HOUSE, ALDEBURGH, SUFFOLK.
December, 1913.

NOTE

At the request of the Society for Providing Cheap Literature for the Blind, this book has been printed in raised type, and may be had at the Society, College Street, Worcester, for 4s. 6d. It has also been translated into Dutch, Finnish, French, German, Italian, Sekwana, and Swedish.

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PART I

MAN THE WORKER

THE CHILDHOOD OF THE WORLD

I

INTRODUCTORY

EVERYTHING in this wide world has a history; that is, it has something to tell or something to be found out about what it was, and how it has come to be what it is.

Even of the small stones lying in the roadway, or about the garden, clever men, after a great deal of painstaking, have found out a history more wonderful than all the fairy stories you have been told; and if this be true, as true it is, of dead stones and many other things which cannot speak, you may believe that a history stranger still can be written about living things.

And it is the history of the most wonderful living thing that this world has ever seen that I want to tell you. You will perhaps think that I am about to describe to you some curly-haired, big-tusked, fierce-

looking monster that lived on the earth thousands of years ago, for children (and some grown-up people too) are apt to think that things are wonderful only when they are big, which is not true. To show you what I mean: the beautiful six-sided wax cells which the bee makes are more curious than the rough hut which the chimpanzee—an African ape—piles together; and the tiny ants that keep plant-lice and milk them just as we keep cows to give us milk, and that catch the young of other ants to make slaves of them, are more wonderful than the huge and dull rhinoceros. It has been truly said that the brain of a worker ant is a more marvellous thing than the brain of a man.

Well, it is the *Story of Man*, as the most wonderful living thing that this world has ever seen, or will ever see, that this little book is written to tell you. It is really the story of *yourself*, whereby I hope that you will learn, as far as we are able to find out, how it is that you are *what* you are, and *where* you are.

Perhaps you have thought that there is nothing very wonderful in being where you are, or in possessing the good things which you enjoy; that people have always had them, or if not, that they had only to buy them at the shops; and that from the first day man lived on the earth he could cook his food, and have ices and

dessert after it; could dress himself well, write a good hand, live in a fine house, and build splendid churches with stained-glass windows, just as he does now-a-days.

If you have thought so, you are wrong, and I will try to set you right, and show you that man was once wild and rough and savage, frightened at his own shadow, and still more frightened at the roar of thunder and the quiver of lightning, which he thought were the clapping of the wings and the flashing of the eyes of the angry Spirit as he came flying from the sun; and that it has taken many thousands of years for man to become as wise and skilful as we now see him to be.

For just as you had to learn your A, B, C, to enable you to read at all, and just as you are learning things day by day which will help you to be useful when you grow up and are called upon to do your share of work in this world, where all idleness is harmful and selfish, so man had to begin learning, and to get at facts step by step along a toilsome road.

And instead of being told, as we are told, why a certain thing is done, and which is the best way to do it, he had to find out these things for himself by making use of his brains, and had often to do the same thing over and over again, as you have sometimes with a hard lesson, before he was able to do it well.

Now there are several reasons for the belief that man was once wild and naked, and that only by slow degrees did he become clothed and civilized. For instance, there have been found in Europe, Asia, Africa, and America, but especially in Europe, thousands of tools and weapons which were shaped and used by men ages upon ages ago, and which are just like the tools and weapons used by savages living now-a-days in various parts of the earth, among whom no traces of a civilized past can be found.

Far across the wind-tossed seas, far away in such places as Australia, New Guinea, Borneo, and Ceylon, there live at this day creatures so wild that if you saw them you would scarcely believe that they were human beings and not wild animals in the shape of men, covering themselves with mud, feeding on roots, and living in roughly-made huts or in woods under the shelter of trees. The word "savage" means *one who lives in the woods*. But they need not our pity, if they are as content as a Vedda cave-dweller who said to a traveller: "It is pleasant for us to feel the rain beating on our shoulders, and good to go out and dig yams and come home wet and see the fire burning in the cave and sit round it."

In telling you how the earliest men lived I shall

want you to go back with me a great many years, even before the histories of different countries begin, to what are called "pre-historic" times, because they were before history, as we understand that word. For men had to learn a great deal before they were clever enough to *write* histories of themselves; many, many centuries—and a century is a hundred years—passed away before they left any trace behind to tell us that they lived, other than the remains that I am about to describe, or broken pottery and scratching on bones and in caverns. So I shall take you past not only the Conquest, but past the day when in this England—then called Britain—the wild people dwelt in wattled huts, lived on fruits and the flesh of wild animals, stained their bodies with the blue juice of the woad-plant, and worshipped trees and the sun and moon, even to the day when no sea flowed between England and France, and when a mass of land enclosing Great Britain and Ireland stretched into the Atlantic.

For you must take now on trust what by and by you will be able to prove the truth of for yourself, when you wisely learn lessons from the rocks and hills themselves, instead of from books about them, that this world, like the other worlds floating with it in the great star-filled spaces, is very, very old and everchanging,—so

FIG. 1.—MAP OF GREAT BRITAIN IN THE OLD STONE AGE
(From Boyd Dawkin's *Early Man in Britain*)

old that men make all sorts of guesses about its birthday; and that, unlike us who become wrinkled and grey, it keeps ever fresh and ever beautiful, brightened by the smiling sunlight playing over its face. And now, without further preface, to my story.

II

MAN AND APES

To make that story clear from the beginning, I will tell you: 1. What is known about man's place among other animals; 2. About the very long time that he has lived on the earth, and 3. About the wanderings of the earliest races of men. Then we will pass on to talk about man's first wants and what tools and weapons he invented to supply them. Thus we reach the stage of *Man the Worker*.

Next we have to learn how men grew from small groups into tribes and nations, and how they thus became more and more civilized.

Then it will be interesting to learn what questions men, as they became less savage, asked about the world as their dwelling place and the source of all things, and about the heavens above them. Here we reach the stage of *Man the Thinker* in the highest sense of that word.

Lastly we have to learn what answers to some of these questions civilized man has been clever enough to

find. Here we reach the stage of *Man the Discoverer and Inventor.*

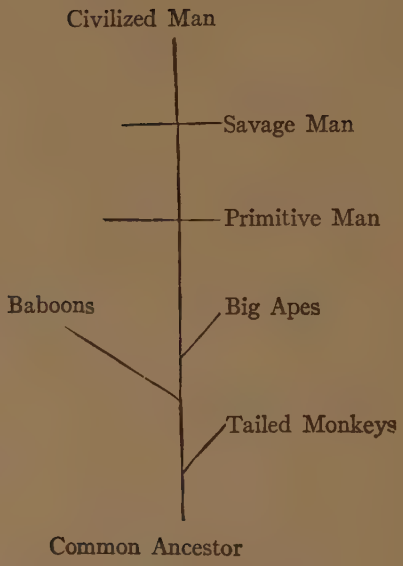
You will learn from other books the story of the beginnings of life on the earth, and how, by slow steps and through long ages, the simplest living things have given rise to millions on millions of different plants and animals. You also will learn that, unlike as these are to look at, all plants and animals are made up of myriads of cells formed of the same stuff. Those which resemble one another are classed together; the highest class of animals being called Mammals, because they suckle their young. (Lat. *mamma*, the female breast).

Man and the tailless apes are ranked at the head of Mammals; the highest apes being the chimpanzee and gorilla, which are found in Africa, and the orang-utan and gibbon, which are found in the forests of Borneo, and Sumatra. Of these the orang-utan has the most manlike brain; the chimpanzee the most manlike skull; the gorilla the most manlike feet and hands, while the gibbon is the only one of the four that walks erect, doing that in a shambling sort of way. Man alone slowly acquired his erect position, which, added to his greater power of thumb as a grasping organ, was an enormous help to his attainment of the highest place among Mammals. Although the bones of men and

FIG. 2.—Reduced from diagrams of the natural size, except that of the Gibbon which is twice as large as nature. (From Professor Huxley's *Man's Place in Nature*)

apes cannot be mistaken the one for the other, and although the brain of man makes a gulf between him and the apes which will never be filled, each animal, as this picture of their skeletons shows, is built on the same plan. And what near "blood relations" they are is proved by the fact that the same kind of blood flows through the veins of each, which is not the case with man and the tailed monkeys.

There is no doubt whatever that man and these big apes, and also the monkeys, sprung from a common ancestor. What this ancestor was exactly like we do not know, because none of his bones have been found; only those of animals whose skulls are partly apelike and partly manlike having, as yet, been discovered. But there can be little question that he was a wild, four-footed, hairy animal, living in trees. Man has not come from an ape or a monkey, as some ignorant people think; each has descended from a common ancestor; not in a straight line, but in some such way as shown in the diagram on the following page.


Civilized Man
Savage Man
Primitive Man
Baboons
Big Apes
Tailed Monkeys
Common Ancestor

III

MAN'S GREAT AGE ON THE EARTH

All that we can learn about this is supplied: 1. By the few remains of man's skeleton which have been dug out of very old deposits; 2. By the numerous tools and weapons found in these, and 3. By pictures scratched on rock-faces and cavern-walls, or on pieces of bone and stone.

Very few human bones have been found, because they are easily dissolved in the soil or in water, and, moreover, would often be eaten by wild beasts, especially by hyenas, which, in far away ages, roamed over large parts of the world. Luckily, the hard framework of man's skull has prevented its perishing as quickly as the other bones, and the specimens that have been obtained are of very great value because they can be compared with the skulls of apes and of men living today, and the differences and likenesses noted. One of the oldest skulls comes from Java, an island once joined, with others near it, to the mainland of Asia, and not far from the places inhabited by the orang-

utan. It is of the greatest interest to us, because it seems to have belonged to an animal somewhere between man and ape. Other skulls, more or less human in shape, have been unearthed in England (the most apelike was found at Piltdown in Sussex in 1912), Germany, and other parts of Europe. None so old as these have been found in America. But our nearest relations, the tailless apes, are also not found there, which may be explained by the fact that the common ancestor of Man and Apes had its home probably in some part of Asia.

That the skulls and other bones of the earliest known men are of enormous age is proved by the depth of the soil in which they have been found, and by that soil having remained unbroken into since the bones got there. You will learn from books on geology about the layers or *strata* (so-called from a Latin word meaning "stretched out") of different rocks that make up what is known as the crust of the globe; (see p. 217) here, it must suffice to say that these rocks have been either fused together by heat or laid down by water. The water-laid rocks, in which alone the remains of plants and animals are found, reach to a total depth of twelve miles, and it is those nearest the surface, which are about four hundred feet in thickness, that yield the

remains of man and of the animals closest akin to him. But though these uppermost deposits are less than one-fifteen-hundredth of the total fossil-yielding rocks in thickness, the sand and gravel and clay and chalk of which they are made up tell a tale of changes filling millions of years. At the time when man was spreading himself over the earth much of what was then land is now sea, and much of what was sea is now land. The British Isles were part of a continent that stretched far into the Atlantic Ocean; there was no English Channel and no Irish Sea, and waters now roll over what were then wide valleys wherein roamed rhinoceroses, hippopotamuses, ancestors of the elephant of today, sabre-toothed lions, cave-bears and other wild animals. There was no Adriatic Sea, and where the Mediterranean now flows there were two large lakes, the land spaces between which united Europe and Africa at Gibraltar and Sicily. America was joined to Asia where the Behring Straits now flow, and to Europe by way of Greenland.

Another proof of man's great age on the earth is in the remains found in limestone caverns in Western and Central Europe. All of these have so many features in common that a description of one will serve for the others. Leaving for a while some account of a few of

the interesting pictures spoken of on p. 15 as found in some of these, I will describe the cave at Brixham, on the south coast of Devonshire, which was discovered more than fifty years ago through the falling-in of a part of the roof. The floor is of stalagmite, or particles of lime, which have been brought down from the roof by the dropping of water, and become hardened into stone again. (*Stalagmite* comes from a Greek word which means a *drop*). In this floor, which is about one foot in thickness, were found bones of the reindeer and cave-bear. Below it is a red, loamy mass, thirteen feet thick in some parts, in which were buried flint flakes or knives, and bones of the mammoth or woolly-haired elephant. Beneath this is a bed of gravel, more than twenty feet thick, in which also flint flakes and some small bones were found. Altogether, there were more than thirty flints mingled with the bones of bears and woolly elephants in the same cave; and as these flints are known to have been chipped by the hand of man, it is not hard to prove that he lived in this country when those creatures roamed over it.

But what proof have we, you ask, that the bones of these creatures are so very old? Apart from the fact that for many centuries no living mammoth has been seen, we have the finding of its bones buried at a goodly

depth; and as it is certain that no one would trouble to dig a grave to put them in, there must be some other

FIG. 3.—THE MAMMOTH
(From Sollas' *Ancient Hunters*)

cause for the mass of loam under which they are found.

There are several ways by which the various bones may have got into the cave. The creatures to which they belonged may have died on the hillside, and their bones have been washed into the cave; or they may have served as food for man, since, as the crushed bones show, he very soon became a flesh-feeder; or they may

have sought refuge and died in the cave, but, be this as it may, we have to account for the thirty-five feet of loam and gravel in which their remains are buried.

The agent that thus covered them from view for long, long years, is that wonderful tool of nature which, before the day when no living thing was upon the earth, and ever since, has been cutting through rocks, opening the deep valleys, shaping the highest mountains, hollowing out the lowest caverns, and which is carrying the soil from one place to another to form new lands where now the sea rolls. It is *water* which carried that deposit into Brixham cavern and covered all the bones, and which, since the day that mammoth and bear and reindeer lived in Devonshire, has scooped out the surrounding valleys 100 feet deeper. And although the time which water takes to deepen a channel, or eat out a cavern, depends upon the speed with which it flows, and on the amount of dissolving carbonic acid in it, you may judge that the quickest stream works slowly to those who watch it, when I tell you it is computed that the river Mississippi, flowing at its present rate, takes six thousand years to scoop out its valley one foot lower! So, with proof heaped upon proof before us, there can be no doubt that man's age on the earth cannot be measured by years.

IV

WANDERINGS OF EARLY RACES

I HAVE told you that man first appeared in some warm forest-clad part of the globe, perhaps that wherein the great apes now dwell, as Southern Asia, but as to this we may never be certain. We know that in the long course of time his descendants slowly overspread the earth. And as the climate in which people live affects the colour of their skins, so the progress of any race, as well as the kind of life which they live, depend very much on the land they dwell in. This goes far to explain the marked unlikenesses between the races of mankind, why some have remained to this day wild and savage, while others have become civilized.

Although we talk of *man* as doing this or that, we must apply that name, at the remote time with which I am dealing, to animals not then wholly human, because in many ways like the apes. I have already spoken of remains which have lately come to light and which show that there were several kinds of half-human creatures, as well as of manlike apes. By steps that we cannot clearly trace these spread themselves over

the earth at a time when the climate was very different from what it is now. That was in what is named the later *Tertiary Age* of the globe's history, when the remains of plants and animals prove that the climate was so very hot in the far north that evergreens, palms and waterlilies were abundant there. Sturdy, strong-limbed, and very hairy, the men of that time needed no clothing; plenty of fruits and berries supplied their wants, so that, like most dwellers in hot countries, they were chiefly plant-feeders. But they had to keep together on guard against wild beasts, huge rhinoceroses, hyenas, tigers, and ancestors of the elephant and horse, and to make use of stone weapons, then of rudest and roughest shape, and of wooden clubs, against them.

This warm climate was followed by several intervals of severe cold, known as the Ice Ages, when a large part of the northern half of the globe was frozen over. The creatures that could live only in a hot climate perished or were driven southwards; man could no longer subsist on plants alone, and was driven to hunt and kill and, if he had discovered how to make fire, cook the wild animals. Chief among these were the mammoth and horse, thousands of bones of which, with those of other animals, mixed with numerous stone

implements, have been found in one place alone in Moravia. Such an addition to his food supply would enable him to extend his wanderings. And some split human bones that have been found seem to show that man was a cannibal in pre-historic times, as, in some parts of the world, he has been, for various reasons, one ever since.

We may picture to ourselves great hordes of manlike creatures and, perchance, of manlike apes also, pouring forth, driven by food impulse, from a common centre, some by way of Southern Arabia into Africa, where we find gorillas and chimpanzees as well as negroes; others wandering southwards by land routes now under the ocean to Australia and Tasmania; while vast numbers spread themselves over Asia, or passed westward into Europe, leaving the orang-utans and gibbons on a side track that these creatures have kept, remaining apes for ever. From Asia some reached America, and thus in the course of hundreds of thousands of years, the world was peopled, and, in the long course of time, split-up into numerous races. Man, we may say, becomes truly man to us when he reaches what is called the Old Stone Age, from which we pass without any break through the New Stone Age and the Ages of Metals to the present day.

Is it not a wonderful thing that of the fifteen hundred millions of people who it is reckoned make up the population of the world, there are no two faces exactly alike? To us every Chinaman with his yellow complexion, almond eyes, and nearly hairless face, looks the same, as does every negro, with his flat nose, wide nostrils, and thick lips. But every Chinaman knows every other Chinaman by his different features, and likewise every negro knows every other negro, just as the quick eye of a shepherd can tell one sheep from another in a large flock, and a gardener tell each hyacinth among a thousand bulbs.

Nearly all the world's peoples are more or less mixed, but they retain certain characters, due to their hair and the colour of their skins. These mark them off into four great divisions, namely:

1. *The Caucasian;* white or tawny skinned, with smooth or wavy hair. These include nearly all Europeans, Americans and many Asiatics, as Hindus and Persians; also Armenians and Jews.
2. *The Mongolian;* yellow-skinned with lank, straight, and coarse black hair. These include the Chinese, Japanese, and numerous peoples in Asia; also Turks, Finns, and Magyars or Hungarians.

3. *The American;* red-skinned, with hair like the Mongolian. These include the Red Indians of North America, and the Indians of S. America.

4. *The Negro;* black-skinned, with woolly or frizzly hair. These include all the black races in Africa, America, and wherever else living. Older than all these are, perhaps, the natives of Australia.

Although what is known as race-feeling will for ever keep black and white and yellow people more or less apart, men are the same in body and mind all the world over, the differences being in the degree in which some are stronger and more clever than others. To know this is to engender kindly feelings towards our fellow creatures, and, with what we also know about our kinship with animals, to extend our sympathy to them, the more so that they are dumb and often helpless, so that in the words of a poet who taught the oneness of all living things before science had proved it, we may

> Never blend our pleasure or our pride
> With sorrow of the meanest thing that feels.

V

MAN'S FIRST WANTS

THESE are, A. food, B. warmth, and C. shelter.

A. **Food** is the chiefest of the three, because, like every other living thing, whether plant or animal, man must eat or die. In the last chapter I said a little about him as at first a plant-feeder, and then becoming also a flesh-feeder; the animal food being obtained by hunting and fishing, and, where men ate one another, by fighting. We may learn from the lowest savages of today, the natives of Australia, much about primitive man. These savages neither till the soil nor raise crops, but feed on seeds, roots, fruits, beetles, grasshoppers, ants, grubs, emus and kangaroos, and, in some parts, on human flesh. All these things have been the food of man from his distant past. He has fought with, and killed, other men, whereby the weaker have become extinct, and he has eaten them, not only because human flesh is tasty, but because of the feeling of revenge which fighting kindles, and also because of the widespread belief among savages that the eater takes into himself the qualities of the eaten. For example, among

the Hurons of North America if an enemy had shown courage his heart was roasted, cut into small pieces, and given to the young men and boys to eat, while, as I shall tell you later, the flesh of human beings who are sacrificed to the gods, is eaten. There was a tribe in South America which not only devoured the dead, but ground their bones to drink in liquor, for they said it was better to be inside a friend than to be swallowed up by the cold earth. This is not pleasant to write about, but the truth has to be told if the story of savage ways of life is to be complete. One thing for reading aright the history of man must never be forgotten. It is this: 1. That his struggle for food is a struggle for life, and 2. That the men who stuck closest together won in that struggle.

1. All living things multiply faster than their food-supply, therefore some have to go short; hence the fight between every plant and every animal all the world over, in which the weaker are beaten. One among many proofs that man was a fighting animal from the outset is in the finding of the broken bones of two races mingled together at a place called Kaprina, in Hungary. Moreover, so quickly does everything multiply that if all the seeds that a single plant produces, and if all the eggs in the roe of a codfish (there are nine

millions), came to maturity, the whole earth would soon be covered by the plants, and the sea would become a solid block of codfish. But as only a very few of the seeds and a very few of the eggs survive to produce their kind, the balance between living things and their surroundings is not upset.

2. "Union is strength" is an old and true saying. Some tiny creatures, as the ant and bee, acted on that long before man did, building up a social life which is one of the marvels of the insect world. All other animals, in the degree that they keep together, are the higher in the scale of life, and succeed the better; for as a great Roman Emperor said, "That which is not good for the swarm is not good for the bee." And it was because the creatures from whom man sprang were banded together that the strongest groups among them won in the struggle for food, which as I have said, was the struggle for life. And more than this. The strongest came to the front as leaders in battle; the wisest came to the front with good counsel, to quell disputes inside the group, and to devise laws which were for the common good, each in their own way doing something to help unity, without which no tribe or nation can survive in the never-ending life-struggle.

B. **Warmth.** There are a great many curious stories

which give an account of the way in which fire was first obtained, but they are a part of that guess-work about things which is ever going on, and which sometimes brings us nearer the truth. Men have ever been quick to make use of what we call their "wits" (which word comes from an old word used by our forefathers, meaning *understanding*) or their common sense, and

FIG. 4.—BUSHMEN DRILLING FIRE
(From Tylor's *Anthropology*)

common sense taught them that fire was to be had by rubbing two pieces of wood together. In making their flint weapons sparks would fly, but they saw that the flints themselves could not be set on fire. When they felt cold, they rubbed their hands together, and warmth came to them. They tried what could be done by running a blunt-pointed stick along a groove of its own making in another piece of wood, and they found first that each got heated, then that sparks flew, then that flame burst out.

Travellers tell us that savages can produce fire in a few seconds in this way, and that in the northern seas of Europe the islanders find a bird so fat and greasy that all they have to do is to draw a wick through its body, and on lighting it the bird burns away as a candle does! And fire was as useful in the days I am writing about as travellers find it now in giving protection from the wild beasts at night, so that man had many reasons for keeping his fire always burning by heaping on it the wood which was ready to his hand in such abundance.

This leads me to say a little about cooking and pottery. At first men ate flesh raw, as some tribes do now, but afterwards they would learn to cook it, and this they did by simply putting the meat direct to the fire. Afterwards they would dig a hole and line it with the hard hide of the slain animal, fill it with water, put the meat in, and then make stones red-hot, dropping them in until the water was hot enough and the meat was cooked. Then a still better way would be found out of boiling the food in vessels set over the fire, which were daubed outside with clay to prevent their being burnt. Thus men learnt—seeing how hard fire made the clay—to use it by itself and to shape it into rough pots, which were dried either in the sun or before

the fire, and hence arose the beautiful art of making earthenware.

C. **Shelter.** Primitive man, like savages in hot climates today, went naked: only as he lived in colder parts would he need clothing, and for this he would use the skins of animals, which were sewn together with bone needles, sinews being used for thread. As for his dwellings, these also would depend on the climate, and on his movements from one place to another. Some rude shelter of boughs and bushes to screen him from the wind sufficed him; or, as among the Eskimos, skins stretched on bones, or, like the Bushmen when out hunting, he would bury himself in the sand. Or a hole would be dug in the ground, a wall being made of the earth which was thrown out, and a covering of tree-boughs put over it; or rude dwellings would be perched on tree-tops. Sometimes, where blocks of stone were found lying loosely, they were placed together, and a rude, strong kind of hut made in this way. And wherever there were over-hanging rocks or hollow trees and caves, these would be used as ready-made shelters. There have been found in lakes, especially in Switzerland, remains of houses which were built upon piles driven into the bed of the lake. The shape of many of these piles shows that they were cut with stone hatch-

FIG. 5.—TREE DWELLINGS IN SOUTH INDIA
(From Ratzel's *History of Mankind*)

ets, which proves that people lived in this curious fashion in very early times. They did so to be freer from the attacks of their enemies and of wild beasts.

These lake-dwellers, as they are called (and not only did they live thus in those remote times and in later ages, but there are people living in the same manner in the East Indies, Central Africa, Borneo and other places at this day), made good use of their stone hatchets, for they not only cut down trees, but killed such animals—and very fierce they were—as the bear, wolf, and wild boar. They had learned to fish with nets made of flax, which they floated with buoys of bark, and sank with stone weights.

Besides what we know about the dwellings of men in early times, there have been found on the shores of Denmark, Scotland, and elsewhere, enormous heaps of what are called "kitchen-middens." These were really the feeding-places of the people who lived on or about those coasts, and they are made up of piles of shells, largely those of the oyster, mussel, periwinkle, etc. on which they fed. With these there have also been found the bones of stags and other animals, and also of birds, as well as flint knives and other things.

I said at starting that the three things which men would first need were food, warmth, and shelter, and

FIG. 6.—FISHING VILLAGE ON THE MEKONG, SIAM
(From Ratzel)

having told you how these were procured, you are perhaps wondering how, since even animals understand one another by their cries and movements, people so very savage spoke to each other and what words they used. This we shall never know, but we may be sure that they had some way of making their thoughts known one to another, and that they learned to speak and write and count little by little, just as they learned everything else. They had some idea of drawing, for bones and pieces of slate have been found with rough sketches of man, mammoth, reindeer, and other animals scratched on them. These old-world pictures, some of the most striking of which are found on the walls of caverns, witness to the truth that man is greater than brutes in this as in other things, since no brute has yet been known to draw a picture, invent an alphabet, or learn how to make a fire.

But I shall have something to say about speaking and writing later on.

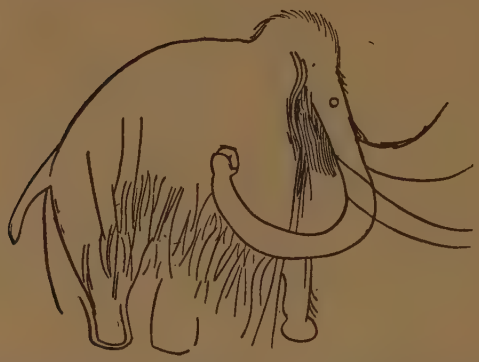


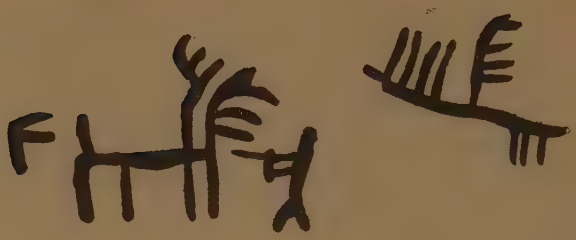
FIG. 7.—ENGRAVING OF A MAMMOTH, Les Combarelles Cavê, France *

FIG. 8.—ENGRAVING OF A HORSE, Les Combarelles

* Figs. 7 to 12 are reproduced by permission of Messrs. Masson & Cie from "*L'Anthropologie.*"

FIG. 9.—MONSTROUS FORMS, A. from cave at Gargas, France; B. C. D. from Altamira, Spain

FIG. 10.—GROUP OF RED ANIMALS ON A ROCK AT COGUL
Stag surrounded by hinds; to the right an ox and elk. Behind the ox is a black head of a hind of earlier date



A B

FIG. 11.—PAINTINGS ON A ROCK AT COGUL
A. A man attacking a stag; B. A stag which he has killed *

FIG. 12.—THREE FIGURES OF WOMEN
From cave at Cogul, Spain *

* Figs. 7 to 12 are reproduced by permission of Messrs. Masson & Cie from "*L'Anthropologie.*"

VI

MAN'S FIRST TOOLS AND WEAPONS

THERE are few things which the wonderfully made hand of man cannot do, but it must have tools with which to work. A man cannot cut wood or meat without a knife, he cannot write without a pen, or drive in nails without a hammer. He might wish to eat of the fish that glided past him in the river, but he must have net or spear to catch it; he wanted to kill and eat the reindeer that bounded past him into the depths of the forest; but he was helpless without weapons.

One of the first things which he needed was therefore some sharp-edged tool, which must of course be harder than the thing he wanted to cut. He knew nothing of the metals, although some of them, not the hardest, lay near the surface, and he therefore made use of the stones lying about. Men of science (that is, men *who know*, because "science" comes from a word meaning *to know*) have given the name "Old Stone Age" to that far-off time when stone, and such things as bone, wood, and horn, were made into various kinds of tools.

Flints were chiefly used, because they were plentiful in many parts and of handy size, and because, by a sharp blow, flakes like the blade of a knife could be broken off them. Other flints were shaped to a point, or into

FIG. 13.—FLINT FLAKES
a. Old Stone Age; *b*. Modern Australia; *c*. Ancient Denmark
(From Tylor's *Anthropology*)

rough sorts of hammers, by chipping with a rounded pebble or other stone. Many of them are in form like an almond, having a cutting edge all round. Their sizes differ, some being six inches long and three inches wide, while others are rather larger.

These oldest stone weapons, unsharpened by grinding

and unpolished, in making which man showed increasing skill, have been found lying on the surface, and also, in large numbers, chiefly in places known as the "drift;" that is, buried underneath the gravel, clay,

FIG. 14.—OLD STONE AGE FLINT PICKS OR HATCHETS
(From Tylor's *Anthropology*)

and stones which have been *drifted* or carried down by the rivers in their ceaseless flow.

As I have already told you, in these early days of man's history huge wild animals shared the habitable world with him. There were mammoths, rhinoceroses, hippopotamuses; there were cave-lions, cave-bears, cave-hyenas, and other beasts of a much larger size than are found at this day.

That they lived at the same time that man did is certain, because under layers of earth their bones have

been found side by side with his, and with the weapons which he made.

Somewhat better-shaped tools and weapons have been found chiefly in caves, which, as already told you (p. 20) were hollowed out by water ages before any living thing dwelt here. These caves were used by men not only to live in, but also to bury their dead in; and from the different remains found in and near them, it is thought that feasts were held when the burials took place, and that food and weapons were put with the dead because their friends thought that such things were needed by them as they travelled the long journey to another world.

The great help to man of the weapons I have described against the attacks of wild animals is easily understood, for with them he was able not only to defend himself and his family, but to kill the huge creatures, and thus get food for the mouths that were always increasing in number. That he did kill and eat them, and clothe himself in their skins and make their bones into deadly weapons, is certain.

It is surprising to think how many things the first men had to do with the stones which they roughly shaped. They cut down trees, and with the aid of fire scooped them out to make canoes, for it was plain to

them that wood floated on the water; they killed their food, cut it up, broke the bones to suck out the marrow; cracked sea-shells to get out the animals inside them, besides doing many other things with what seem to us blunt and clumsy tools.

Following the Old Stone Age, when the waters had cut a wide channel between Britain and Europe, there

FIG. 15.—NEW STONE AGE IMPLEMENTS

a. Stone celt or hatchet; *b*. flint spearhead; *c*. scraper; *d*. arrowheads; *e*. flint flake knives; *f*. core from which flint flakes are taken off; *g*. flint awl; *h*. flint saw; *i*. stone hammer head

(From Tylor's *Anthropology*)

appear races who had passed from the savage state, makers of well-formed spearheads, daggers, adzes, hatchets, beautifully shaped barbed arrowheads, and other stone tools and weapons which were ground to a sharp edge and polished. These races are called men of the "New Stone Age," and it would appear that the older races, who were less able to defend themselves, were driven northwards by them.

While we are talking about this New Stone Age I should tell you that there are found in different parts of the world stone ruins of very great age and various shapes and sizes, some built of pillars covered with a

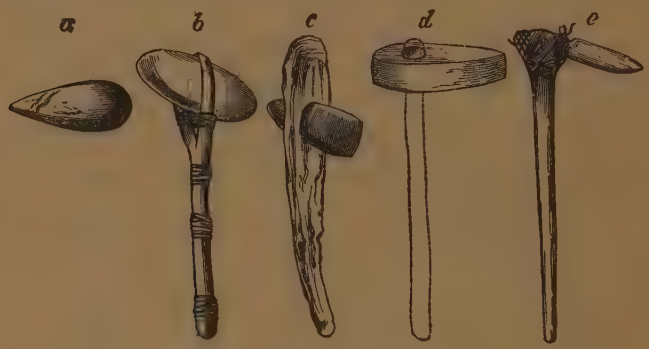


FIG. 16.—STONE AXES, ETC.

a. Polished stone (England); *b*. pebble ground to edge and mounted in twig handle (Brazil); *c*. celt fixed in wooden club (Ireland); *d*. stone axe bored for handle (England); *e*. stone axe (modern Polynesia)

flat stone for roof, others built to a point like the great pyramids of Egypt.

These, like the caves, were used to bury the dead in, but sometimes they were built to mark the place where some great deed was done, or where something very wonderful had happened. The heaping together of stones was an easy and lasting way of keeping such things fresh in men's minds, just as we erect statues

in honour of our great men, or raise something in memory of their acts of bravery, nobleness, or charity. When built as tombs for the dead, their importance

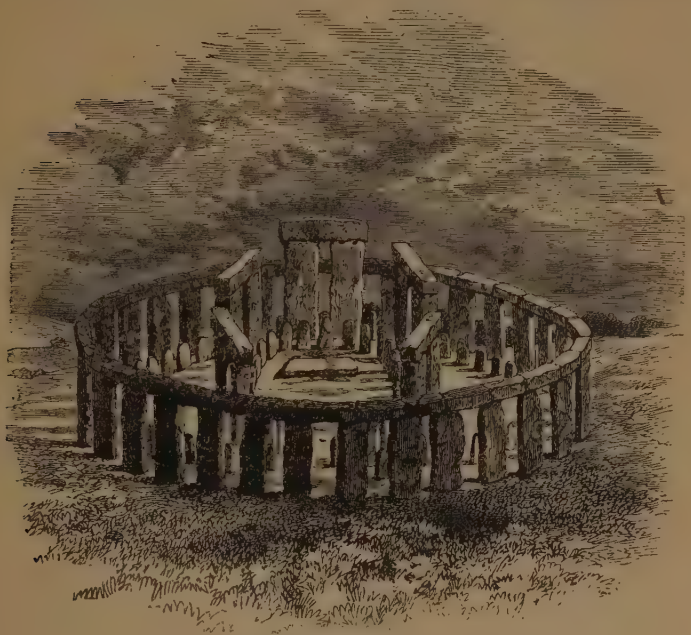


FIG. 17.—STONEHENGE AS IT PROBABLY WAS
(From Boyd Dawkin's *Early Man in Britain*)

depended upon the rank of the person to be laid within them. The numerous circles of standing stones—like that at Stonehenge—are thought to have been built for worship of some kind. But more about these later on.

VII

DISCOVERY OF METALS

In course of time some man, wiser than his fellows in virtue of his quicker eye and more active brain, discovered the metals which the earth contained. When we think about the thousand different uses to which these are put—how without them no ship big enough and strong enough to cross the ocean could have been built, or steam-engine to speed us along constructed—we learn how enormous is their value to us. It is certain that if man had never discovered them he would have remained in a savage, or, at least, a barbarous state.

Through all the story of his progress we see that he never went to the storehouse of the earth in vain. Therein were treasured up for him the metals which he needed when stone was found to be too blunt and soft for the work he wished to do; therein, formed millions of years ago, were the vast coal-beds which were laid open to supply the cosy fires when wood grew scarce; therein were the great and it would seem ex-

haustless supplies of oil that give us light by night, and that are now largely taking the place of steam to speed our great ships. Year after year brings the story of something new and wonderful of which earth has kept the secret until the skill of man finds it out.

Gold, which means the *yellow*, *bright* metal (from Anglo Saxon *gulr*, yellow), was most likely the first to be used by man. Its glitter would attract his eye, as it is found in the sands of rivers, and sparkles on the rocks containing it. It has to be mixed with another metal to be made hard enough for general use; but in its native state would be easily shaped into ornaments. Savage and polished people are alike in this love of ornament. Necklaces of shells and amber made in the Stone Age have been found; and to this day savages think of decoration before dress. One very common way of making themselves smart, as they think, is by marking their face, body, and limbs with curved lines, made with a pointed instrument, filling in the marks with colour. This is called tattooing. If this shows that people have in all places and times loved to look fine, although they have gone through pain and discomfort as the price, it also shows that the love of what is beautiful, or of what is thought to be beautiful, is possessed by man alone. It is true that animals,

especially insects, have "an eye for colour," and that the gorgeous plumage of male birds attracts their mates, but these are due to causes about which you will learn in books on natural history.

Copper is a metal which came into early use. Like gold, it is often found unmixed with anything else, and its softness enables it to be worked into various shapes. Where it was scarce, and tin could be had, fire was made use of to melt and mix the two together, forming the pretty, hard, and useful metal called bronze. By pouring the molten mass into a mould of stone or sand, weapons of the shape wanted would be made.

The age when the metals I have named were used is called the "Age of Bronze." A very long time passed before iron was smelted, that is, melted and got away from the ore (or vein running through the rock) with which it is found, because this is very hard work, and needs more skill than men had then; but when they succeeded in smelting and moulding it, it took the place of bronze for making spearheads, swords, hatchets, etc., bronze being used for the handles and for ornaments, many of which—such as earrings, bracelets, and hair-pins—have been found among the ruins in the Swiss lakes.

Silver and lead were used later still.

You have thus far learnt that by finding in river beds, caverns, and elsewhere, various tools, weapons, ornaments, and other remains, some of them at great depth, and all without doubt made by man, it is known that he must have lived many, many thousands of years before we have any records of him in histories written on papyrus (which was the reed from which the ancients made their paper—hence the name "paper"), or painted on the walls of tombs.

By way of marking the steps of man's progress his early history is divided into periods, named after the things used in them, as thus:—

1. The Paleolithic (Greek *palaios*, old, and *lithos*, a stone) or Old Stone Age.
2. The Neolithic (Greek *neos*, new, and *lithos*, a stone) or New Stone Age.
3. The Age of Bronze.
4. The Age of Iron.

Since this book was first written, not only have enormous numbers of the rudest-shaped stone implements been found in different and distant parts of the world, but, what is more important, the depths of the soil from which they have been dug up show that man was living in Europe before what is known as the Great Ice Age, when the northern hemisphere was covered

with ice. That may have been more than a million years ago, and to this we have to add the time that passed between his arrival in Europe and leaving his first home. The "Old Stone Age" covers so vast a time that it has been divided into three periods named after the animals that were then most numerous:

1. The Hippopotamus, when the climate was warm.
2. The Mammoth, when the climate was damp.
3. The Reindeer, when the climate was cold and dry.

The most interesting of these is the Reindeer, because that is the time when cave-dwellers drew their clever pictures of the animals then probably most abundant. Then set in the great changes in land, sea, and climate and in the plants and animals which bring us to the New Stone Age.

From what has thus far been told you we learn that the number of years that passed between the chipping of the earliest and rudest flints and the shaping of the first bronze weapons is not known. The Table at the end of this chapter gives only a rough idea of the length of the earlier periods. We are sure that men used stone before they used bronze and iron, and that some tribes were in the Stone Age when other tribes had found out the value of metals, just as there are savages in New Guinea and other places who are still

stone-using, or who have known about metal tools and weapons only through white men bringing them. All the Ages overlap and run into each other like the colours of the rainbow.

For example, although some of the lake-dwellings, about which I have told you, were built by men in the New Stone Age, a very large number belong to the Bronze Age; and the relics which have been brought to light show how decided was the progress which man had made. The lake-dwellers had learned to cultivate wheat, to store up food for winter use, to weave garments of flax, and to tame the most useful animals, such as the horse, the sheep, and the goat. Man had long before this found out what a valuable creature the dog is, for the lowest tribes who lived on the northern sea-coasts have left proof of this in the bones found among the shell heaps. By the taming of the horse he secured the animal that has been of the greatest help in his progress from savagery, and that progress took one of the biggest strides possible when some shrewd man, perhaps seeing the idea in a rolling log, invented the wheel, and, after that, the axle.

In what is known as the Age of Iron very rapid progress was made; and while the variety of pottery, the casting of bronze coins, the discovery of glass, and

a crowd of other new inventions show what great advance was made in the *things* man used, they show also how fast *man himself* was rising from a low state. He progressed more in a few centuries than he had hitherto in many thousands of years.

TABLE OF STAGES OF CULTURE

Later Iron Age	About 300 B. C. to the present time.
Early Iron Age	From about 1,000 B. C.
Bronze Age	" " 2,500 B. C.
Copper Age	" " 3,000 B. C.
New Stone Age	Lasted about 15,000 to 25,000 years.
Old Stone Age of chipped tools and weapons; cave drawings and sculptures.	Lasted about half a million to one and a half million years.
Older Stone Age of beaked keel-shaped, and of other very rough implements, called Eoliths (Greek *eos*, dawn, and *lithos*, stone).	Lasted about two million years.

VIII

MANKIND AS HUNTERS, SHEPHERDS, FARMERS, TRADERS AND SAILORS

FROM being a roving, wild, long-haired savage, gnawing roots, or crouching behind rock or tree to pounce upon his prey, uncertain each morning whether night would not set in before he could get enough to eat, man became keen enough to learn the habits and the haunts of animals and to place them at his mercy by the skill with which he could hurl the big stone weapons, throw the spears tipped with flint or bone, and, with his bow, speed the deadly arrowheads. Travellers tell us that the hunting skill of savage races shows a cleverness which is marvellous. They know the track, and cry, and habits of every animal in their country; they will track the opossum by its claw-marks on a tree trunk; put grass on their heads to conceal themselves, then creep or swim up to ducks and pull them one by one under water and break their necks; find snakes by watching the movements of the butcher birds that are always near these reptiles; catch a bee and stick a piece of feather on it, let it go, and

then follow its flight until the hive and honey are found; use one fish to catch another; tell a turtle nest with fresh eggs from one with stale eggs by the appearance of the sand; in short, find food where a white man would starve to death. So clever are they at tracking, that they can not only follow an animal to its hiding-place, but even know the footprints of every other member of the tribe.

One of the many things that set us wondering is how and when man domesticated, or made house-friends of, as we may say (Lat. *domus*, a house), the creatures that ran wild and savage. Anyway, some part of mankind, finding how useful certain animals were for the milk and flesh which they gave as food, and for the skins, especially of their young ones, which could be made into soft clothing, had learnt to tame and gather them into flocks and herds, moving with them from place to place wherever most grass and herbs could be had. These men were the first shepherds or herdsmen, living a nomad (which means *wandering*) life, dwelling in tents because they could be easily removed.

While some clung to the shepherd's or herdsman's life, others passed in the slow course of time to a more settled state, becoming farmers or tillers of the earth. (The word earth is said to mean the *ploughed*.)

At an early stage man had found out what seeds, roots, and fruits could be eaten, and had noticed that when seeds were put into the soil they would grow. So by steps that can no longer be traced, he learned to till the ground and store his supply of corn and maize and rice and all other food-yielding plants. Wherever tillage is found among savages today, the implements of the primitive husbandman are still used. Pointed sticks serve the purpose of digging up roots, and of a hoe in turning the soil. From the hoe came the invention of the plough, and the primitive spade is a flat bladed piece of wood.

In out-of-the-way places in civilized countries such rude implements are still used by the peasantry. For the knowledge of metals as implements, compared with these, is late. As farming caused men to settle in one place, they would not be content with such rude dwellings as sufficed in the Stone Age, or with tents, like the nomads, but would have their houses well built, with stables and barns in which to lodge their cattle and store up their corn.

All the sunny days would be wanted for their field work, and they would therefore be glad to employ others who could build their houses and make their tools. Thus, one after another, different trades would

arise and be carried on, which would bring people together for mutual help and gain; thus houses would multiply into villages, villages would become towns, and towns would grow into cities.

The first sailor was the man who sat on a floating tree-trunk, paddled with his hands, or waved a leafy bough as a sail. The next step was, by the help of a stone axe and fire, to hollow out the trunk (our word "ship" comes from the Greek "skaptô," *to dig*.) So, by slow stages, man advanced in the beautiful art of shipbuilding; the canoe being the remote forerunner of the splendid liner. For many ages he dared not venture upon the wide ocean, but crept along the coast, sailing at night by the stars, whose places he watched, and not till the compass, with its needle always pointing to the north, was invented, would he venture out of sight of land. Some time passed before sailors would use the compass; they thought that so uncanny a thing was moved by some evil spirit.

The different classes of people would unite together for protection against their enemies, and either all would learn the art of war, or would select some of the bravest and strongest among them to become the army to defend the land. Some one man, the best and ablest they could find, would be chosen to carry out

the laws which the people agreed to make for the well-being of all.

We have seen that on man's first entrance into life he found it one continued battle against forces of all kinds, and the only law that ruled was the law of might. Besides ability to defend himself by sheer force or cunning, man possessed the power of injuring and of doing wanton cruelty and mischief for its own sake, and of this power all history shows us he made sad use. Lower in this than the beast which slays to satisfy its hunger, man killed his fellow-man to satisfy his lawless ambition, and committed ravages which centuries of labour have been unable to repair. Hence in early as well as in later times, the bad passions and jealousies of men broke out and caused the desolating wars which have darkened so many bright spots in this world. It is certain that the tillers of the soil and the dwellers in towns would be more inclined to a peaceful and quiet life than the roving tribes, or than the chieftains who, with their followers and herds and flocks, would often seek to gain by force what they coveted.

Not that these were always to blame, but they would be the more likely of the two to "pick a quarrel." Disputes arose between them about the ownership of

the land; the nomads, who loved the lazy ease of a pastoral life more than the hard work of tool-making or house-building, would want to share some of the good fruits which the farmers were making the earth to yield, or some of the bright, sharp-edged weapons which the metal-workers were moulding, and in various ways "bad blood," as people call it, would be stirred, which would end in fighting. The stronger would conquer the weaker, seize upon or lay waste their land, and make slaves of such of the prisoners as they thought it worth while to spare. It was an age, like many ages since, when no tender feelings ruled in the heart of man, but when the "golden rule" was not; and the harsh, stern law was in force

> "That they shall take who have the power,
> And they shall keep who can."

But wars do not last for ever, and men would find that it was after all better to live in friendship and peace. So they would trade together; the earth would yield the farmer more food than he needed, and he would be glad to barter with it, giving some of it to the herdsman in exchange for cattle, and to the tool-maker in exchange for tools, each of whom would be very glad to trade with him.

Then, as intercourse grew, it was found very awkward and cumbersome to carry things from place to place, especially if they were now and then not very much wanted, and people would agree to make use of something which was handy to carry, steady in value, and that did not spoil by keeping. So, whenever they could, men fixed upon pieces of metal, first casting bronze into coins and then using gold and silver, which, being scarcer than other metals, are worth more. We learn from the paintings at Thebes, in Egypt, and from other sources of ancient history, that gold and silver were counted as wealth in early times. Abraham is said in the Book of Genesis to have been "very rich in cattle, in silver, and in gold." The word "pecuniary," used in speaking of a man's riches, comes from the Latin word *pecus*, which means cattle, and shows that formerly a man's wealth was sometimes reckoned by the cattle he had. And when copper was used as money instead of cattle, it was stamped with images of cows or sheep. Our word "fee" comes from an Anglo-Saxon word meaning both "money" and "cattle," wherein is another of the proofs of the meaning that words hold. They have been called, with truth, fossil history, and fossil poetry; when you break them up, they reveal, like fossils, the story of their origin.

IX

LANGUAGE

THE beginnings of language lie in man's needs to make known his thoughts and wants to his fellow-men. Animals utter love-calls and danger-cries to one another, which they understand, and so far they have a language, but man alone has the power of articulate speech, that is, of uttering distinct letters, and the syllables which make up words. Our brains are the organs of our minds, and our sense-organs are the wires which telegraph to our brains all that we see and hear and feel. And in one part of our brain is the "speech centre," which is not found in the ape nor in dumb idiots. It is not fully formed in babies till they are a year old, as we may guess from their being unable to talk. It was when man uttered the first articulate word about anything that the gulf which separates him from all other animals was fixed. Like aught else that he has invented or improved, language has grown from simple materials; from a few sounds there have been developed the rich and varied languages of past

and present civilized peoples. When we "analyse" or "loosen" words we see that they have come from root-sounds, very many of which are imitations of natural sounds and cries, as when we say the clock "ticks," or name the "cuckoo" and the "peewit" after their cry or love-note. The higher languages are always growing; intercourse between peoples causes them to use one another's words, and, moreover, new inventions need new words to describe them. One of the most delightful books to study is a dictionary that gives us the roots of words, that is, whence they came and why they were chosen. We shall learn from this that nearly all the words that we use to explain or describe things have come from something real. For example, people who treat you in a haughty way are called "supercilious," which means "raising the eyebrows." That word comes from the Latin, *super*, above, and *cilium*, an eyebrow. When we "apprehend" anything, the word really means that we grasp, or "lay hold" of it; the words "abominate" and "ominous" also come from the Latin, both meaning a thing of ill omen, thus preserving record of a time when people believed in warning signs of good or evil. To "consider" was to consult the stars (Latin *con*, together, and *sidus*, a constellation); while to call a thing "trivial" meant

anything common enough to be picked up at three cross ways (Lat. *tres*, three, and *via*, a way). A knowledge of the sources of words often saves us from blunders and confusions, as, for example, when we talk of the Mosaic books, we mean those in the Bible which were once believed to be written by Moses, while inlaid floors and walls are called "mosaic" from *Mousa*, a muse, because the Muses—the Greek goddesses of song, music, and dancing, etc.—were often figured on them.

Man at first had very few words, and those were short ones, and in making known his thoughts to others he also used signs—"gesture-language," as it has been called. We do the same now; for in shaking the head to mean "no," in nodding it to mean "yes," and in shaking hands in proof that we are joined in friendship, we speak in gesture and would have to use a great deal if we were travelling in some country of which we did not know the language. There are very few things that cannot be expressed by signs or gestures, and among the ancients entire plays were performed by persons called pantomimes (which word means *imitators of all things*,) who acted not by speaking, but wholly by mimicry. A story is told of a king who was in Rome when Nero was emperor, and who, having

seen the wonderful mimicry of a pantomime, begged him as a present, so that he might make use of him to have dealings with the nations whose languages he did not know. We have now so many words, and are always adding to the number, so that we need use signs but very little, if at all.

Just as all the races of mankind probably have come from one common home, so the different languages which they speak have flowed from one source.

There are *three* leading streams of language, and I shall have to quote a few hard names in telling you about them. But they are worth remembering.

It was thought some years ago that Hebrew, the language in which the sacred books of the Jews (known to us as the Old Testament) are written, was the parent, so to speak, of all other languages, but it has since been found through tracing words to their early forms, or roots, that

1. Sanskrit, in which the sacred books of the Brahmans, known as the Vedas, are written, and which was a spoken tongue in the time of Solomon and Alexander the Great, but which has been a "dead" or unspoken language for more than two thousand years; Zend, in which the sacred books of the Parsees (or so-called

fire-worshippers) known as the Zend-Avesta, are written; Greek, the language of Greece; Latin, the language of the ancient Romans; (neither Greece nor Rome had any sacred books, poems and epics taking their place);

and nearly all the other dialects and languages of India and Europe, are children of the Indo-European, or Aryan family of speech, so-called, it is said, from a Hindu word meaning "noble" applied to the worshippers of the gods of the Brahmans.

2. The second division of languages includes the Hebrew; the Arabic, in which beautiful language the Koran, the sacred book of the Mohammedans, is written; and the languages on the very old monuments of Phœnicia, Babylon, Assyria, and Carthage.

3. The third division includes the remaining languages scattered the world over; those of China, Tibet, and Farther India appear to stand apart as relics of the first forms of human speech, being mainly made up of words of one syllable.

The ancient language of Britain is now found only in some parts of Wales, Ireland, and Scotland, and the foundation of our present language, which now contains above one hundred thousand words, is the same as that

spoken on the coast of Germany. It was brought over by Angles, Saxons, (hence Anglo-Saxons), Jutes, and other tribes from the Continent. Anglo-Saxon is the mother-tongue of our present English, to which in various forms Greek, Latin and other words have been and are being added.

Enough has been said to help you to see the importance and interest attaching to the study of the wonderful faculty by which we are able to talk to people in various languages, and read in ancient books the story of man's past thoughts and deeds. I want to lead you on to feel and know that the study of words is a delightful way of spending time, and that the dictionary, which is thought by many people to be a dry book, is full of poetry and history and beauty locked up in its words, which the key of the wise will open.

X

WRITING

THE use of writing is to put some thing before the eye in such a way that its meaning may be known at a glance, and the earliest way of doing this was by a picture. Picture-writing was thus used for many ages, and is still found among savage races as, for example, the Bushmen of South Africa and the Australian natives. On rocks, stone slabs, trees, and tombs, it was the device employed to record an event, or tell some message.

In the course of time, instead of this tedious mode, men learned to write signs for certain words or sounds. Then the next step was to separate the word into letters, and to agree upon certain signs to always represent certain letters, and hence arose alphabets. The shape of the letters of alphabets is thought by some to bear slight traces of early picture-writing. To show you what is meant, Aleph, the first letter of the Hebrew alphabet, means an *ox*, and the sign for that letter was an outline of an *ox's head*. Is it not

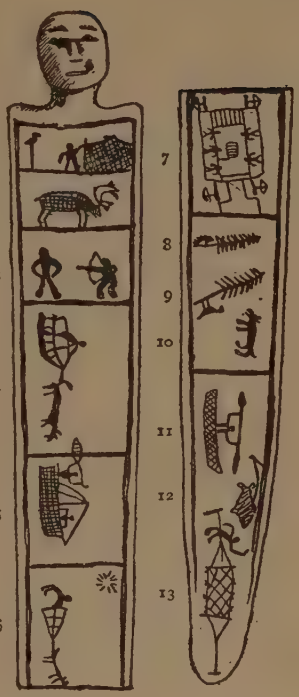


FIG. 18.—(CARVED ON A PIECE OF WALRUS TOOTH)

1. A native is resting against his house; 2. A reindeer; 3. One man shooting at another with an arrow; 4. Expedition in a dog sledge; 5. Boat with sail and paddle; 6. A dog sledge with the sun overhead, perhaps to indicate that summer has come; 7. A sacred lodge. The figures at each outer corner represent young men armed with bows and arrows to keep off others from the sacred place. Inside some members of the lodge are dancing round a fire; 8. Pine tree up which a porcupine is climbing; 9. Another pine tree, from which a woodpecker is extracting insects; 10. Bear; 11, 12. Men driving fish into, 13, the net, a captured whale, with harpoon and line attached, above them.

FIGS. 19A, 19B.—INDIAN GRAVE POSTS

Fig. 19A shows the dead warrior's totem (see p. 104), a tortoise, and beside it a headless man, which is a common symbol of death among Indian tribes. Below the trunk are three marks of honour. The next and more elaborated figure (19B) records the

achievements of Shingabawassin, a celebrated chief of the St. Mary's band. His totem, the crane, is shown reversed. The three marks on the left of the totem represent important general treaties of peace to which he had been a party; the six strokes on the right probably indicate the number of big battles which he fought. The pipe appears to be a symbol of peace, and the hatchet a symbol of war.

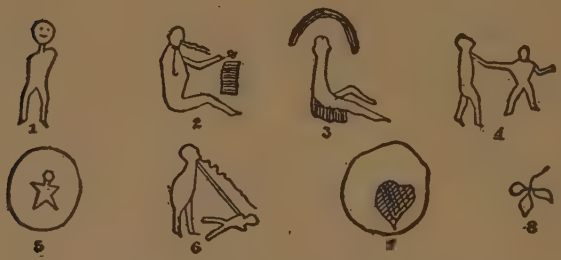


FIG. 20.—INDIAN LOVE SONG

1. Represents the lover; 2. he is singing and beating a magic drum; in 3 he surrounds himself with a secret lodge, denoting the effects of his necromancy; in 4, he and his mistress are joined by a single arm to show that they are as one; in 5 she is on an island; in 6 she sleeps, and as he sings, his magical power reaches her heart; and in 7 the heart itself is shown. To each of these figures a verse of the song corresponds.

1. It is my painting that makes me a god.
2. Hear the sounds of my voice, of my song; it is my voice.
3. I cover myself in sitting down by her.
4. I can make her blush, because I hear all she says of me.
5. Were she on a distant island I could make her swim over.
6. Though she were far off, even on the other hemisphere.
7. I speak to your heart.

FIG. 21.—WAR SONG *

Wings are given to the warrior, 1, to show that he is swift-footed; in 2 he stands under the morning star, and in 3 under the centre of heaven, with his war-club and rattle; in 4, the eagles of carnage are flying round the sky; in 5, the warrior lies slain on the battle-field; while in 6 he appears as a spirit in the sky. The words of the song are as follows:—

1. I wish to have the body of the swiftest bird.
2. Every day I look at you; the half of the day I sing my song.
3. I throw away my body.
4. The birds take a flight in the air.
5. Full happy am I to be numbered with the slain.
6. The spirits on high repeat my name.

* Figs 19A, 19B, 20, 21 are copied from Tylor's *Early History of Mankind;* the originals are in Schoolcraft's *Indian Tribes.*

FIG. 22.—INDIAN PETITION TO THE UNITED STATES CONGRESS
(From Dorman's *Primitive Superstitions*)

Fig. 22 is a copy of a petition sent by a group of Indian tribes to the United States Congress for fishing rights in certain small lakes near Lake Superior. The leading clan is represented by Oshcabawis, whose totem is 1, the crane; then follow 2, Waimitligzhig; 3, Ogemagee; and 4, a third, all of the marten totem; 5, Little Elk, of the bear totem; 6, belongs to the manfish totem; 7, to the catfish totem.

From the eye and heart of each of the animals runs a line connecting them with the eye and heart of the crane to show that they are all of one mind, and the eye of the crane has also a line connecting it with the lakes on which the tribes want to fish, while another line runs towards Congress.

wonderful that the hundred thousand words that make up our English language are composed of only twenty-six letters variously arranged?

The signs used by astronomers for the sun, moon, and planets; the signs I, II, III, for one, two, and three; are proofs that if picture-writing is of value to man in a civilized state, it must have been of greater value to him, and much more used by him, the farther we search back. We still speak of signing our name, although we have ceased to use a sign or mark, as was done when few could write.

A wise man has said that "what is ever seen is never seen," by which he meant that we are blind to the importance of things near to us and in daily use. Hence it is that few pause to think what an enormous boon the invention of writing has been to man. Without it he could never have risen much above the savage state. We could have had only shreds of uncertain knowledge about the past: the thoughts of the good and great must have perished: no news from near or far could have reached us save by word of mouth, no letters could be sent to, or received from, absent friends—what a blank our life would have been! Until printing was invented, books were in manuscript, that is, written by hand (Latin *manus*, the hand,

and *scribo*, to write) and therefore, very costly. It is the art of printing that has made the spread of knowledge possible, and put it in the power of the poorest to buy famous books for a small sum.

XI

COUNTING AND MEASURING

THE art of counting is slowly learned by savage tribes, and at this day some are found who cannot reckon beyond four, or who, if they can, have no words for higher figures.

All over the world the fingers have been and are used as counters, and among many tribes the word for "hand" and "five" is the same. This may be taken as a common mode by which the savage reckons:—

One hand	5
Two hands or half a man . .	10
Two hands, and one foot . . .	15
Hands and feet, or one man . .	20

We do the same, as shown in the word *digit*, which is the name for any of the figures from one to nine, and comes from the Latin *digitus*, meaning a *finger;* while counting by fives and tens enters into all our dealings, as shown in the word *decimal* (from the Latin *decem*, ten). One early way of counting was by pebbles, the Latin for which is *calculi*, and we pre-

serve this fact in our use of the word *calculate;* just as, when we tie a knot in our handkerchief to remind us of something we fear to forget, we are copying the ancient plan of counting with knotted cords. Besides the fingers, other parts of the body, as their names show, were used for measuring. We speak of a man as six *feet* tall; of a horse as so many *hands* high; *fathom*, that is, the space of both arms extended, comes from the Anglo-Saxon *fæthem*, bosom; *span* is the space from the end of the thumb to that of the little finger when the hand is outstretched; both *ell* and *cubit* are from Latin words for the *elbow*. When we come to measurements in space, as lines, surfaces and solids, we have to learn *geometry*, or *earth-measurement*, as that word means.

XII

GAMES, SONG, MUSIC AND DANCING

"To everything there is a season," says an old writer called the Preacher, "a time to weep and a time to laugh." For these are the outcome and outlet of feelings which, when we are young, rule our lives more than reason does. The wiser, as they grow older, learn to control their feelings, and thereby avoid thoughtless and harmful acts, but the lesson is often a hard one to learn.

To love or hate, to be glad or sorry, these are inborn in us all, as they are, in lesser degree, in animals. I do not think that man in the Stone Age had a merry life, but some spare time came to him between work and sleep, and there were the little children to care for and amuse. We may get a rough sort of guess about this in learning how savages now-a-days amuse themselves in games and sports and songs and dances. In their games they often mimic serious work, as boys do when they play at soldiers, and as do girls also, when they play at "make-believe" mothers with their dolls.

And then cricket and other field sports are mimic warfare, in which one side tries to beat the other. Greatest of all games were the Olympian in Ancient Greece, which sprang from religion. To be a winner in these was not so much to gain money as the praises of renowned poets, singing how "he that overcometh hath for the sake of those games a sweet tranquillity throughout his life for evermore." Almost all over the world we find the game called "cat's cradle," in which a piece of string is looped to make figures imitating various things, even to the telling of stories; and there are other games that are hundreds and hundreds of years old.

Savages, as is said of poets, sing because they cannot help it, and their earliest songs, which have love and war and the deeds of brave men as their theme, are chanted by the tribe, and handed down from one generation to another. One of the oldest songs of the kind is in the book of Genesis (IV. 18) where Lamech says "I have slain a man to my wounding, and a young man to my hurt." And in the days before writing was invented, when memories were not crammed with so many things, songs of very great length were learned by heart and taught by fathers to their children, or sung by bards in the halls of chiefs and by the firesides of the people. As an example of this, about

eighty years ago, a learned man travelled all over Finland collecting a number of old ballads which were sung by wandering runoias, as they were called. And when he came to put these songs together he found that each fitted into its place as part of a great epic poem named the *Kalevala*, or "land of heroes," whose theme was the deeds of the chiefs and warriors of that northern land. For how many centuries this had passed among the people in unwritten form no one can say. It was from the *Kalevala* that Longfellow borrowed the metre of his poem *Hiawatha*.

All our musical instruments retain traces of their earliest forms. A great poet who lived nearly two thousand years ago says that "the whistlings of the zephyr (that is, the west wind) through the hollow of reeds first taught men to blow into the hollow stalk." So it is from the reed that we get the flute, the trumpet and the organ. The drum is the little-altered tom-tom of the savage, a circular hollow, across each end of which a skin is stretched; and the harp has its beginnings in the twang of the drawn bowstring. Thence, too, we get the violin and the piano, which, as a "grand," is simply a harp laid flat in a case, the hammers of the keyboard taking the place of the fingers that pull the harpstrings.

Dancing is the oldest of all the ways in which savages and, indeed, people everywhere, give vent to their feelings. Among savages everything is an excuse

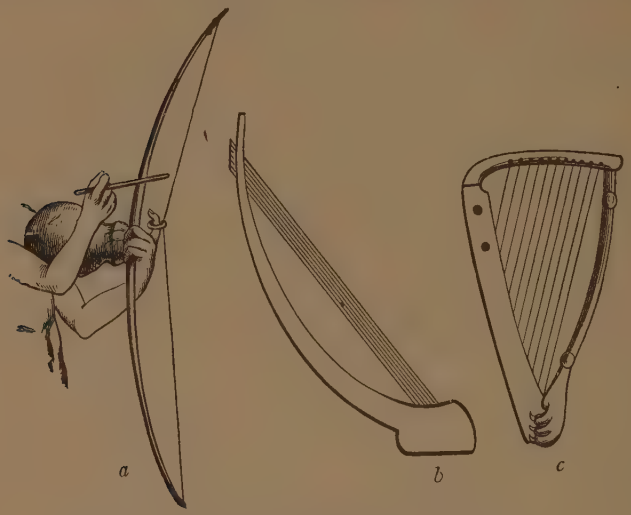


FIG. 23.—DEVELOPMENT OF THE HARP

a. Music-bow with gourd resonator (South Africa); *b*. ancient harp (Egypt); *c*. mediæval harp (England). (From Tylor's *Anthropology*)

for a dance. When they marry, or have children, or go to war, or eat their slain enemies, or want help from their gods, or seek to please them, they dance. And they make a very serious business of it; it is not with them, as with us in our village or ballroom dances, mere fun. Dancing in its beginning was a form of

worship. Among all savage tribes the medicine-men or priests dance before their gods, and so it has been in every age. We read in the second Book of Samuel (VI. 14) that King "David danced before the Lord with all his might;" and other ancient books tell how the processions moved with song and dance to the temples of Rome, of Greece and of Babylon. To this day, at the feast of Corpus Christi in Seville, there is a ritual dance before the high altar of the Cathedral, and at Echternach in Germany the people dance in the streets once a year to celebrate the bringing of the Christian religion by Saint Willibrord. A missionary tells a recent story of Scotch settlers in Prince Edward's Island who "danced before the Lord" in their church, and he says that it was so "catching" that it would have taken but a little to have made him join them.

It is their war-dances that beget most excitement in savages, when with yells and whoops and hideous grimaces, beating of drums with their hands and of the ground with their feet, they work themselves into fury and frenzy, the women goading them on, and greeting them on their homecoming. So they did in Old Testament times, when Miriam and the other women went out with timbrels and dances to meet

Moses on his victory over the Egyptians. (Exodus XV. 20.) When "David was returned from the slaughter of the Philistines the women came out of all the cities of Israel singing and dancing." (I. Samuel XVIII. 6.)

All over the savage world a number of magic dances are performed to secure supply of food. The dancers deck themselves with feathers to look like birds, or with leaves to look like trees, or wear skins and horns to look like buffalos, and then dance "buffalo," mimicking hunting, fishing, or sowing, in the belief that this will bring them food. As with customs everywhere, these have never died out. In ancient Rome the priests danced round the city walls at the season of tilling the ground; in ancient Mexico the women tossed their hair as they danced so that the maize might have long wavy tassels, and to this day, in Europe, peasant maidens dance and jump high to make the flax grow. These and a heap of allied customs come under what is called "sympathetic magic," which means imitating a thing to bring about a certain effect, as, for example, when in times of drought, the Oweka Indians drink water and spirt it into the air to imitate rain or when, in South Eastern Europe, a girl is drenched with water which drips from her.

Both these are rain-charms. They "do what they want done."

By slow degrees the dance, which was all dumbshow, gave rise to the spoken drama (named from a Greek word meaning "to act"), whereby some story, sad or merry, was acted either in the open air, as in Greece, or under cover in buildings called theatres (so named from a Greek word meaning "to see").

XIII

MAN'S PROGRESS IN ALL THINGS

THE early history of man shows us how wonderful his progress has been when we compare the Age of Stone with our present happy lot. Not only in house building, cooking, pottery, clothing, and the various uses of metals, have his rude ways been improved upon, but, as I shall show you in a later chapter, also in his knowledge of the earth beneath and the stars around the progress of man has been vast. The waves of ether and of the air, the wind, the waterfall and stream, daily work for him, and their force is chained to do his bidding. He has already seen a good depth, and may see further yet, into the mystery of the stars, and every day he is spelling out some new sentence here and there in the great book of Nature.

An ancient writing full of noble thoughts, begins the story of some great and noble lives with these words: "Let us now praise famous men and our fathers that begat us." But there are men who can never be

famous because we know only what they did, not who they were. I mean those who, in far away times, knowing nothing, and thinking nothing, as to what would be the outcome of their own simple actions, laid the foundation of all that has since been done. For he who first shaped a stone weapon was the father of all warriors; he who first chipped a flint was the father of all sculptors; he who first daubed clay round a gourd or coconut shell was the father of all potters; he who first scratched a picture of man or mammoth was the father of all painters; he who built the first rude wigwam or mud-hut was the father of all house-builders; he who first scooped out a tree trunk was the father of all shipbuilders; he who first piled stones together was the father of all builders of pyramids, abbeys and cathedrals; he who first bored a hole in a reindeer's bone to make a whistle, or twanged a stretched sinew, was the father of all musicians; he who first drew a picture that might tell some message or story was the father of all alphabets; he who first counted on his fingers was the father of all arithmetic makers; he who first rhymed his simple thoughts was the father of all poets; he who first tried to find out the secrets of matter and to make gold and silver was the father of all chemists; he who first strove to learn

the secret of sun and star was the father of all astronomers. In short, all that we see around us of the works of man has come from simple beginnings, never by leaps or bounds, but by slow steps.

XIV

DECAY OF PEOPLES

I HAVE given this little book the title of the "Childhood of the World" because the progress of the world from its past to its present state is like the growth of each of us from childhood to manhood or womanhood.

Although the story, on the whole, has flowed smoothly along, we must not leave out of sight the terrible facts which have sometimes checked the current. History, both in books and in ruins, teaches that there have been tribes and nations (some of the nations so great and splendid that it seemed impossible for them ever to fall) which have reached a certain point, then decayed and died. This has been the fate of nearly all the great empires of past renown. To "the glory that was Greece and the grandeur that was Rome," there are added the fallen temples and monuments of Egypt, Babylon, Persia, Mexico, Peru and other once powerful nations, while in some cases, as the Hittites and the Cretans, whose monuments have been disinterred, the key to the languages which they

spoke, as yet, has not been found. And since man has lived so many thousands of years on the earth, there must have risen and fallen races and tribes of which no trace will ever be discovered.

The causes of the sin and crime of which every place in this world, at one time or another, has been more or less the scene, are men's ignorance of what is due to their fellow-man, and their wilful misuse of their strength of body and powers of mind. Not only do the "ape and tiger" instincts remain in man as a born fighter; he can, by means of his bigger brain, bring his imagination into play to devise horrors and cruelties the story of which is one of the saddest in his history. (See p. 148). Hence have arisen cruel wars and shocking butcheries; captures of free people, and the crushing of their brave spirits in slavery. Moreover, men have disobeyed the laws of health, and the plague or "black death" has killed tens of thousands, or gluttony and drunkenness have destroyed them. They have striven for money and selfish ease (forgetting the eternal fact that not one of us can live by bread alone, but that we live our lowest if that be the end and aim of our life), and their souls, lean and withered, have perished.

But although the hand on the clock-face of progress

has now and then stood still or even gone back, it is a great truth for our comfort and trust that the world gets better and not worse. There are some people who are always sighing for what is not or cannot be; who look back to the days of their childhood and wish them here again; who are ever talking of the "good old days" when laughter rang with richest mirth, when work was plentiful and beggars scarce, and life so free from care that wrinkles never marked the happy face. Do not listen to these people, they have either misread the past or not read it at all. Like some other things, it is well-looking at a distance, but ill-looking near. We have not to go far back to the "good old times" to learn that kings and queens were worse lodged and fed and taught than a servant is now-a-days.

It is very foolish and wrong either to wish the past back again, or to speak slightingly of it. It filled its place; it did its appointed work. Even out of terrible wars blessings have sometimes come, and that which men have looked upon as evil has been fruitful in good. Nothing that has happened has ever been wholly wiped out. The great Empires that perished left behind them, for good or evil, the effects of what they did. The past has made us what we are; and the present is helping to shape the future. So what that

future will be like rests a good deal with each of us. We may help or hinder: we may do a kind act or an unkind act, and thus add to the stock of human love or hatred. Can there be a worthier thing to strive for than to know that the world is even a little the better, and in no way the worse, for our having been born?

XV

SUMMARY

I HAVE striven to put into the foregoing chapters what, told at length, would fill many books. And that your memory may be kept fresh and clear, I will repeat in a few words the substance of what, thus far, has been said.

All living things, from the lowest to the highest, are like the trunk, branches, twigs, and leaves of a single tree; they have sprung from one root. Man is the topmost branch of the great life-tree. His bigger brain and his upright posture enabled him to excel all other animals.

Unnumbered years ago, he spread himself over the globe from his first home. He was far lower than any savages now-a-days; he lived by his cunning and strength, outwitting the more powerful animals that shared the earth with him. For brains win in the struggle for life, and man had the nimbler and bigger brain.

During a time that can only be roughly measured

he carried on that struggle with the help of stone tools and weapons: his history, like that of every other living thing, is one of fighting for food and mates, and more room as his numbers increased. There was in those old days little mercy or pity, the weaker gave way to the strong and perished. And the strong brought forth strong children who grew up to defend and hold what they had gained, which, you may be sure, were the things worth getting and keeping.

Man is a social animal: hence, at the start, he banded himself with other men. Union is strength and in this lay the power whereby, at last, in the course of his wonderful history, he gained lordship over all things that dwell on land or in water. But he and his fellow-men would have made little headway had they been unable to talk to one another. It was in the growth of the organs of articulate speech that the great gulf between man and ape was further widened never to be filled.

By degrees he passed from hunting animals to taming them; then from eating wild fruits and seeds to planting them, which brought about needs for the dividing of labour, and so arose different kinds of workers. Then, as time went on, there was, ever-growing, trading by land and sea. By the discovery

of metals advance from barbarism was secured; but the metals would have been of little use without fire to smelt them; hence, even for that alone, the importance of its discovery.

Climate, food and other causes working through immense periods, brought about changes marking for all time one race from another, dividing mankind into white, yellow, red and black.

The history of man from the beginning to this day is a sort of zigzag: some races have never passed beyond the savage state; the surface of the world is strewn with the ruins of Empires that wielded power and rose to mighty fame, and change is written on the face of everything.

PART II

MAN THE THINKER

XVI

INTRODUCTORY

THE place of an animal in the scale of life is governed by the size and quality—that is, the grey matter—of its brain. Fishes are the lowest among the backboned, and their brains are small and smooth. As we pass from these to reptiles, birds, and mammals, we find the brains becoming larger and larger and more grooved, having a puckered-up look resembling a walnut. Man's brain is the largest and most furrowed, but, as further proof of his nearness to the great apes, his brain is more like theirs than theirs is like that of monkeys.

The brain is the most wonderful part of our body, since in addition to its being the organ of the mind, it controls all our movements. How mind and brain work together we do not know, but we know that if anything happens to the brain, the mind is thrown out of gear. Among the many marvels that science has revealed, none, I think, is greater than this—that the brain is a mass of soft, whitish matter made up of

more than four-fifths water, containing about three thousand million cells, each with its own work to do, yet all acting together as one, and maintaining their working power till disease, injury or old age weaken or destroy them. For every nerve cell appears to differ from the cells of which our bodies are made up in that it is adapted to last throughout our life, no matter to what age we attain.

It is said that three-fourths of these nerve cells control the movements of our body and sensations, and that the remaining fourth control our thoughts, storing up in some way that we cannot explain memory of the things learnt, seen and heard, which make up what is called our experience—what we have "passed through," as that word means. In this there lies,—so it seems, for we cannot get inside the minds of animals, any more than we can into those of our fellow creatures—the secret of man as the highest animal. For he has the power to *conceive* about things and shape his acts accordingly, as well as to *perceive*; the power not only to know, but to know that he knows, which means that he is conscious of himself; and can say, "I am I."

How *man* got his name is uncertain, but there are good reasons for believing that it comes from a root

word meaning *to think* or *to know*. A fitter one could not have been chosen.

Of course he was Thinker as well as Worker from the beginning, but to make things clear we must draw a line between that part of his history when his concern was to supply the wants of his body, and the other part when he could pause to think about the world around him and the sky above him, and to shape his ideas and ask questions about them. But we shall get our minds into a tangle if we treat the divisions made in the story of man's history as real. For he never *began* to be this or that; he passed by steps, many of which are wholly worn-out, while the traces only of a few remain, from lower to higher things, from guesses to certainties, and this through the brain whose wonderful nature I have told you about.

In his guesses there was one thing that he could not know, and that, untaught, none of us could know,—that things are not always what they seem. His eyes told him that the earth is flat, moveless, and covered in by a dome-like vault, across which the sun, moon and stars travel. Our eyes tell us the same, but astronomers have proved that the earth is a globe and revolves round the sun at a speed of about nineteen miles every second. The savage, hearing the re-

bound of his voice from the hillside, believes that this comes from a mocking spirit: we know that it is due to the return of air-waves from the solid body which it strikes. The old Greeks had a pretty legend that Echo was a nymph, daughter of the Earth and Air, who, for love of a beautiful youth, named Narcissus, pined away until there remained only her voice.

Although what has to be told about some of these guesses must, to make the matters clear, be set down in order, you must keep in mind the fact that this order does not agree with what is in the mind of the savage. For that is in a higgledy-piggledy state; full of bewilderment. His thoughts, like ours, must take shape from his surroundings, hence, where there is so much to confuse, his ideas are jumbled; nothing is, as we say, "cut and dried." The idea of order in anything is very late in the history of man: even today we find among many people, who are supposed to be well taught, the oddest and most opposite ideas about things without seeing how absurd those ideas are. And there is another thing to bear in mind when we hear about savage man's guesses and the beliefs and customs to which they give rise. We shall find in these much that is coarse and cruel, but this is not because man wilfully acts thus. For nothing coarse or

cruel could have lasted if it did not answer to some needs which man believed could not be satisfied in any other way.

Those who have studied his body tell us that it bears many traces of the structure of the lower animals from which he has sprung. And, in like manner, those who have studied the higher religions tell us that all of them bear many traces of the lower religions from which each one of them has sprung. The religion of the savage is more real to him than ours is to many of us. For it had its beginnings not, as is sometimes said, in seeking after God, but in supplying the needs of the body. That chief need was food, to get which men had to work together; no man working for himself; if he did, he was killed, because the life of a man can never stand in the way of what is good for the tribe. They believed that their food-supply depended on the good will of the mighty powers that gave or withheld the rain and the sunlight and the moonshine, This was their religion, and it explains the world-wide rites and ceremonies which had as their one purpose the maintenance of the food-supply. They were not taught that they must believe this or that creed to ensure the happiness of heaven, and escape the torments of hell; indeed, it is very late in man's history

that religion became self-seeking, making the saving of his soul the chief purpose of his life. They had no priests, and no preachers; no churches or chapels, no sacred scriptures; no one day set apart to worship their gods; their belief was a common every day affair, in which they acted as one man; and to practise it was a matter of life and death.

So it was with what we call morals: a word which comes from the Latin *mos*, manners or customs. Whatever was helpful to the tribe was right to do; whatever was harmful to it, was wrong to do, and, although the ideas of what is right and wrong differ in different lands and ages, the motive whence they spring is the same—the well being of the community.

This explains the force of Custom throughout the world. An old writer truly calls it "King of All." It has made people confuse things which are wrong in themselves with things which are neither right nor wrong, and really of no consequence. In India, a man of one caste will not eat with a man of a different caste, and he regards dining at an hotel as a greater sin than murder. So, in Albania, the shooting of a man is a less crime than to eat forbidden food on certain days, and, some centuries ago in Germany, people were put to death for eating meat in Lent.

Until within the last few years in Scotland no one dared take a walk on a Sunday, and it was forbidden to travel on that day even on a mission of mercy. Such a hard-hearted creed contradicted the teaching of Jesus that "the Sabbath was made for man, not man for the Sabbath."

XVII

MAN'S FIRST QUESTIONS

WHAT were the things that set man thinking and asking about?

He saw around him the world with its great silent hills and green valleys; its rugged ridges of purple-tinted mountains, and miles of barren flat; its trees and fragrant flowers; the graceful forms of animals, the soaring bird, the swift deer and kingly lion; the big, ungainly-shaped mammoth (long since died out); the wide scene beaming with the colours which came forth at the bidding touch of the sunlight, or bathed in the shadows cast by passing clouds; he saw the sun rise and travel to the west, carrying the light away; the moon at regular times growing from sickle shape to full round orb; then each night the stars, few or many, bursting-out like sparks struck off the wheels of the Sun God's chariot, or like the glittering sprays of water cast by a ship as she ploughs the sea.

His ears listened to the different sounds of Nature; the music of the flowing river; the roar of the never

silent sea; the rustle of the leaves as they were swept by the unseen fingers of the breeze; the patter of the rain as it dropped from the great black clouds; the rumble of the thunder as it followed the spear-like flashes of light sent from the rolling clouds: these and a hundred other sounds, now harsh, now sweet, made him ask—What does it all mean? Where and what am I? Whence came I; whence came all that I see and hear and touch?

To put these questions was to seek for the answers to them; hence man's effort to find out the *cause* of things, what it was that made them as they were.

All around him was Nature (by which is meant *that which brings forth*), great, mighty, beautiful; was it not all alive, for did it not all move? *And the savage was right*, as he has proved to be in other things —since

> All thoughts that mould the age begin
> Deep down within the primitive soul.

All life is one, and the earth, whence we all come, is no dead thing, because she gives life to all. Her soil feeds the plants; the plants feed the animals; and both plants and animals are the food of man. That we all are one with nature is a truth that the savage felt, although he could not know it in its fulness. For in

thinking how he would seek to get at the cause of what he saw and heard, we must not suppose he could reason as we do. But although he could not shape his thoughts into polished speech, common sense stood by to help him.

He knew that he himself moved or stood still as he chose, that his choice was ruled by certain reasons, and that only when he willed to do anything was it done. Something within governed all that he did. Nature was not still; the river flowed, the leaves trembled, the earth shook, the clouds drifted: sun, moon, and stars stayed not: these then must be moved by something within them. Thus began a belief in spirits in sun, tree, waterfall, flame, beast, bird, and serpent; in brief, in everything.

It is easy to understand that from this there flowed belief in a life common to all, and this may help to explain another belief found among many of the lower races, namely, that they are descended from animals and plants, and even from non-living things. This is known as Totemism, a name which comes from an Ojibway (North American) word meaning "family or tribe." Three hundred years ago a traveller in Peru tells of a tribe who believed that their ancestor came out of a river, and who would not allow any fish to be

caught in it because they said that the fish were their brothers. The tribes who believe like things call themselves after the living or not-living thing from which they claim descent, and in the case of the animal or plant they will not eat it. If, by stress of hunger, they are forced to kill the animal, they beg its pardon and in other ways seek to avert any harm that may come to them from so doing. The belief leads to all kinds of queer customs, as, for example, a clan in Central India has a brick for its totem, and therefore uses only wattle or mud in building its houses! Another clan near the Himalayas claims to be kindred with the tiger, and goes into mourning when one of these creatures dies.

XVIII

MAN'S FEAR OF THE UNKNOWN

Above and around man were movement and change; he saw and heard happenings the cause and meaning of which bewildered him; hence his feeling was solely one of fear. For the unknown is always dreaded; only when the nature of anything is known, can we think or talk calmly about it. Everywhere and through all time the ignorant are the slaves of mystery and fear; so true is the old saying that "Knowledge is Power."

As I have sought to show, the instinct of the savage leads him to ascribe an in-dwelling life to everything that moves, from the sun in heaven to the rustling leaves and the stones that roll from the hillside across his path. In this he acts as we see shying horses, timid pups, and young children act, until they learn from experience what things move of their own accord and what things do not. Ever on the alert against enemies, man's fears multiplied them on all sides; and since he thought that the unseen beings in whom he believed

had passions like his own, he dreaded harm from every quarter, especially from things near at hand whose dire effects touched him closely, as the whirlpool and the rushing river, the falling tree, the devouring beast, or venomous reptile. Things farther off and less fitful moved him somewhat less, but although day succeeded night, he saw that the sun and moon were in turn often swallowed and disgorged by the black cloud-monsters, and in the wake of the fire and wind-dragons of the lightning and the storm he feared destruction and death.

And that primitive fear has never wholly left the heart of man. Today the Red Indian "sees signs of weal or woe in the turning of a leaf, the crawling of an insect, the cry of a bird, and the crackling of a bough," and in Hindustan the religion of nine people out of every ten is one of fear. For thousands of years, harassed and haunted by beliefs about angry gods and maliceful demons, man everywhere has been kept in a state of fright. We can count the years only by a few hundreds when the discovery of an unbroken order in the universe has set us free from the terrors begotten by those beliefs. For to know that nothing happens by chance is to give us a sense of strength and comfort that "underneath us are the Everlasting arms." And

we can count the years only by fifties and sixties since children were frightened, as I was in my boyhood, by tales of people sent to suffer for ever and ever in torments of fire and brimstone for no matter how little a sin they may have committed. Now, instead of being thus frightened into doing evil, lest we be thus punished for it, we are taught to love the right for its own sake, because only thus can we help on the advance of man to what is best and noblest, and enjoy for ourselves a "peace that passeth understanding."

XIX

MYTHS ABOUT THE EARTH AND MAN

In seeking to account for the kind of life which seemed to be (and really was, although not as he thought of it) in all things around, man shaped the most curious notions into the form of *myths*, by which is meant a fanciful story founded on something real (Greek *mythos*, a fable). If to us a boat or a ship becomes a sort of personal thing, especially when named after anyone; if "Jack Frost," and "Old Father Christmas," which are but names, seem also persons to the mind of a little child, we may readily see how natural it is for savages to think that the flame licking up the wood is a living thing whose head could be cut off; to believe that the gnawing feeling of hunger is caused by a lizard or a bird in the stomach; to imagine that the echoes which the hills threw back came from the dwarfs who dwelt among them, and that the thunder was the rumbling of the Heaven-God's chariot wheels.

Myths have changed their form in different ages,

but they remain among us even now, and live in many a word still used, the first meaning of which has died out. To show you what is meant: we often speak of a cross or sullen person being in a bad humour, which word rests on a very old and false notion that there were four moistures or *humours* in the body, on the proper mixing of which the good or bad temper of a person depended.

In telling you a little about myths I cannot stay to show you where the simple early ones became later on stiffened into the legends of heroes, with loves and fears and hates and mighty deeds, such as make up so much of the early history of Greece and Rome, but that you will learn from other books.

To savages the earth was a living creature, both as a whole and in every part; the soil was her flesh; the rocks and stones were her bones. In many languages she bears the beautiful, and in so many ways true, name of Earth-Mother, as the self-reproductive. A very old and widespread myth tells of a time when she and the overarching Heaven-Father were joined together, whereby all things were in darkness until some hero cut them asunder and gave light to mankind. And an old Greek myth tells how when Heaven and Earth rewedded, there was

born unto the day
And light of life all things that are; the trees,
Flowers, birds and beasts and them that breathe the seas.

In savage myth the waterspout was thought to be a giant or sea-serpent reaching from sea to sky; the rainbow (which books about light will tell you is a circle, half only of which we can see) was a living demon coming down to drink when the rain fell, or, prettier myth, the heaven-ladder or bridge along which the souls of the blest are led by angels to Paradise; or the bow of God set in the clouds, as Indian, Jew, and Fin have called it; the clouds were cows driven by the children of the morning to their pasture in the blue fields of heaven; the tides were the beating of the ocean's heart; the earthquake was caused by the Earth Tortoise moving underneath; the lightning was the forked tongue of the storm demon, the thunder his roar; and volcanoes were the dwelling places of angry demons who threw up red-hot stones from them.

Man's sense of the wonderful is so strong that a belief in giants and pigmies and fairies was as easy to him as it has been hard to remove. The bones of huge beasts now extinct were said to have belonged to giants, whose footprints were left in those hollows in stones which we know to be water worn. The big

loose stones were said to have been torn from the rocks by the giants and hurled at their foes in battle. The stories of the very small people who once lived in northern Europe, and whose descendants now live in Lapland, perhaps gave rise to a belief in dwarfs. The flint arrowheads of the New Stone Age were said to be elf-darts used by the little spirits dwelling in woods and wild places, and the polished stone axes to be thunderbolts!

How all kinds of other myths, such as those accounting for the bear's stumpy tail, the robin's red breast, the crossbill's twisted bill, the aspen's quivering leaf, arose, I cannot now stay to tell you, nor how out of myths there grew the nursery stories and fairy tales which children never tire of hearing; for we must soon be starting on our voyage from the wonderful realm of fancy to the not less wonderful land of fact whither science is ever bearing us. Nay, not less wonderful, but more wonderful, since the fancies come from the facts more than the facts from the fancies.

XX

MYTHS ABOUT SUN AND MOON

Among many savage tribes the sun and moon are thought to be man and wife, or brother and sister. One of the most curious myths of this kind comes from the Esquimaux, the dwellers in the far North. It relates that when a girl was at a party, some one told his love for her by shaking her shoulders after the manner of the country. She could not see who it was in the dark hut, so she smeared her hands with soot, and when he came back she blackened his cheek with her hand. When a light was brought she saw that it was her brother, and fled. He ran after her and followed her as she came to the end of the earth and sprang out into the sky. There she became the sun and he the moon, and this is why the moon is always chasing the sun through the heavens, and why the moon is sometimes dark as he turns his blackened cheek towards the earth.

Among other people, and in later times, the sun is spoken of as the lover of the dawn who went before

him, killing her with his bright spear-like rays, while night was a living thing which swallowed-up the day. If the sun is a face streaming with locks of light, the moon is a silver boat, or a mermaid living half her time under the water. When the sun shone with a pleasant warmth he was called the friend of man; when his heat scorched the earth he was said to be slaying his children. You have perhaps heard that the dark patches on the moon's face, which look so very much like a nose and two eyes, gave rise to the notion of a "a man in the moon," who was said to be set up there for picking sticks on a Sunday!

XXI

MYTHS ABOUT ECLIPSES

THERE is something so weird and gloomy in eclipses of the sun and moon, that we can readily understand how through all the world they have been looked upon as the direct work of some dreadful power.

The Chinese imagine them to be caused by great dragons trying to devour the sun and moon, and beat drums and brass kettles to make the monsters give up their prey. Some of the tribes of American Indians speak of the moon as hunted by huge dogs, catching and tearing her till her soft light is reddened and put out by the blood flowing from her wounds. To this day in India the native beats his gong as the moon passes across the sun's face, and it is not so very long ago that in Europe both eclipses and rushing comets were thought to show that troubles were near. Here again we learn the lesson that Fear is the daughter of Ignorance, and only departs when Knowledge enlightens us as to the cause of things. For we know that an eclipse (which word comes from Greek words meaning

to leave out or *forsake*) is caused either by the moon passing in such a line between the earth and sun as to cause his light to be in part or altogether hidden, *left out* for a short time; or by the earth so passing between the sun and moon as to throw its shadow upon the moon and partly or wholly hide her light. *Our* fear would arise if eclipses did not happen at the very moment when astronomers have calculated them to occur.

XXII

MYTHS ABOUT STARS

THERE is a curious Asian myth about the stars which tells that the sun and moon are both women. The stars are the moon's children, and the sun once had as many. Fearing that mankind could not bear so much light, each agreed to eat up her children. The moon hid hers away, but the sun kept her word, which no sooner had she done than the moon brought her children from their hiding place. When the sun saw them she was filled with rage and chased the moon to kill her, and the chase has lasted ever since. Sometimes the sun comes near enough to bite the moon, and that is an eclipse. The sun, as man may still see, devours her stars at dawn, but the moon hides hers all day while the sun is near, and brings them out at night only, when the sun is far away.

The names still in use for certain clusters of stars and single stars were given long ago when the stars were thought to be living creatures. They were said to be men who had once lived here; to be mighty

hunters or groups of young men and maidens dancing. Many of the names given show that the stars were watched with anxiety by the farmer and sailor, who thought they ruled the weather. The group of stars known to us as the Pleiades was so called from the word *plein*, which means *to sail*, because the old Greek sailors watched for their rising before they ventured on the ocean. They are called *the digging* stars by the Zulus, who live in South Africa, because when they appear the people begin to dig. A very good illustration of the change which a myth takes is afforded by the Greek mythology in which the Pleiades are spoken of as the seven daughters of Atlas (who was said to bear the world on his shoulders), six of whom were wedded to the gods, and the seventh to a king, for which reason Meropê, as she is named, shines the faintest of them all.

The stars were formerly believed to govern the fate of a person in life. The temper was said to be good or bad, the nature grave or gay, according to the planet which was in the ascendant, as it was called, at birth. Several words in our language witness to this old belief. We speak of a "disaster," which means the stroke or blast of an unlucky star; *aster* being a Greek word for star. We call a person "ill-starred" or born under a

"lucky star." Grave and gloomy people are called "saturnine," because those born under the planet Saturn were said to be so disposed. Merry and happy natured people are called "jovial," as born under the planet Jupiter or Jove. Active and sprightly people are called "mercurial," as born under the planet Mercury. Mad people are called "lunatics." *Luna* is the Latin word for moon, and the more sane movements of the insane were believed to depend upon her phases or appearances of change in form.

Sun, moon, and stars were all thought to be fixed to the great heaven (which word is said to come from the Anglo-Saxon *hefan*, to lift, although this is not certain) because it seemed like a solid arch over the flat earth. To many a mind it was the place of bliss, where care and want and age could never enter. The path to it was imagined to be along that bright looking band across the sky known to us as the "Milky Way," the sight of which has given birth to several beautiful myths.

XXIII

NATURE-WORSHIP

We have now to learn a little about some of the things which savages worship, and the worship of which has not wholly died out among some higher races.

The interesting question as to what man first worshipped has had many answers, but none of them are complete, because no one answer wholly meets the case. Some learned men think that the worship of serpents and trees was the earliest faith of mankind. Others have thought that the earth, sun, moon, stars, and fire were first worshipped. It is not in any one thing, but in man's sense of powers about him and around him which he could not control, that we must look for the beginnings of worship (see p. 99). Ruled by fear of them, he would try to get into some sort of friendly relation with them; he would devise ways to secure their help and favour. Ages might pass before he thought of them as in any way like himself, that is, as persons, and then his ideas of them would be shaped

by his surroundings. In a flat country, there would be no mountain gods; in a waterless land, there would be no river gods; and in a country not bordering on the sea, there would be no ocean gods.

1. *Worship of Lifeless Things.*
   - A. The Earth
   - B. Water
   - C. Stones and Mountains
   - D. Fire
   - E. Sun, Moon and Stars

2. *Worship of Living Things*
   - F. Animals
   - G. Trees
   - H. Man

A. **The Earth.** Earth worship has a foremost place in early religions. As I have said, she was fitly named All-Mother, for from her all things come. The idea of her motherhood was no mere pretty fancy, but a fact; to the natives of America and elsewhere she was a living thing; indeed, a great astronomer, who lived three hundred years ago, thought that the lungs and gills through which the Earth-spirit breathed would one day be found at the bottom of the sea!

This idea of the Earth-Mother grew as man passed

from the hunting to the farming stage. Some of the most beautiful myths of olden time have their source in the death of plant life in the winter and its resurrection in the spring. Connected with these are

FIG. 24.—THE EARTH GODDESS WITH HER CHILDREN
(A relief from the Augustan Altar of Peace preserved in the Uffizi Gallery, Florence)

various ceremonies and customs at different times of the year, oftenest in the budding spring, the purpose of all of which was to secure good harvests, and plenty of flocks and herds. Some of the sacrifices then offered were bloody, because of the belief which has caused so much cruelty and suffering that only in such

way could the favour of the gods be won. It was believed that the Earth-spirit was angry when the plough cut the soil, or when the cattle trampled upon it, or when the foundations of a building were driven into it. So we read that in ancient Mexico a woman dressed to represent the Earth goddess was killed and her heart offered to the Maize Mother; that in the Philippine Islands a slave was sacrificed before the rice was sown; while only a few years ago, some tribes in Bengal hacked a victim to pieces in the belief that his blood was necessary to give a deep red colour to the turmeric (a dye-yielding plant) which they cultivated. In many parts of the world to this day, a victim, usually an animal, is buried under the foundation, or inside the wall, of a new building to appease the Earth-spirit.

In other lands, and in later and happier times, these hideous sacrifices gave place to processions and festivals free from cruel rites. The priests led the people round the fields, singing hymns, and blessing the growing crops. The spring became more and more a season of joy and hope, and from these more beautiful forms of Earth worship came our Mayday dances and harvest thanksgivings. In some parts of England there survives the custom of patrolling the bounds of the

parish, when the clergyman and his flock deprecate the vengeance of God by a blessing on the fruits of the earth and, in beating the bounds, preserve the rights and properties of the parish.

B. **Water.** The worship of water, that marvellous thing without which there could be no life, is very widespread and easy to account for—for what seemed so full of life, and therefore, according to early man's reason, so full of spirits, as rivers, brooks, and waterfalls? To him it was the water demon that made the river flow so fast as to be dangerous in crossing, and that curled the dreaded whirlpool in which life was sucked. When one river god came to be afterwards believed in, as controlling each stream, making it to flow lazily along or to rush at torrent speed, it was believed to be wrong to save any drowning person lest the river god, or the demons who were believed to be the ghosts of drowned men, should be cheated of their prey.

Sacred springs, holy wells, abound everywhere to show how deep and lasting was water worship. So cleansing and healing a thing, the more so when it has minerals in it, made early appeal to man, and from ancient Babylonia to modern Wales the sick and crippled have flocked to holy wells to be cured. The same

belief explains the ancient and modern rite of baptism, which led to the cruel creed no savage would have framed that if children were not sprinkled with water by a priest they could not be saved, and to the belief that "holy water" can drive away demons and witches. The great rivers of the world, as the Nile, the Tiber and the Thames, are famous as "fathers," and in art are sculptured in human forms, while among the more sacred rivers is the Ganges, of which some beautiful stories are given in the sacred books of India, telling how it flows from the heavenly places to bless the earth and wash away all sin. In West Africa offerings are made by the sorcerers to still the raging sea, as among the ancient Greeks and Romans victims were cast into it, in each case as a sacrifice to the great sea gods, or "mother sea," as the ancient Peruvians, worshipping it as giver of food, called it. Down to the eighteenth century the inhabitants of the Butt of Lewis in Scotland made offerings to a sea god named Shony, and even within recent times continued certain rites to the god to secure a good supply of seaweed.

C. **Stones and Mountains.** All over the world, and for all sorts of reasons, odd and otherwise, stones have been worshipped. I spoke (p. 112) of the old belief that flint arrowheads were fairy darts and chipped

tools thunderbolts, and the belief in stones as sacred was helped because some of them were known to have fallen from the sky. These are what we call "shooting stars," which being too large to melt in vapour as they pass through the atmosphere have reached the earth in a solid state. Of such kind are said to be the Black Stone at Mecca, which Mohammedans travel long distances to worship, and also stones in Mexico and India. Stones of curious shape are believed to have magic powers. A savage sees a stone that looks like a bread fruit, so he buries it near a bread fruit tree in the belief that he will thus have a good crop. Or he sees a stone with little stones underneath it, and worships these in the hope that his sow will give him many pigs. These are also examples of "sympathetic magic" (see p. 80). In Nigeria, when a man falls ill, lots are cast, and food and drink given to sacred stones that they may cure him.

More than any other worship, that of stones links together the past and present. The history of the ancient Greeks, Romans, Jews, Mexicans, and other people of renown, is full of examples of belief in stones as alive and as having magic powers. Two hundred years before Christ the Romans (whose primitive rites were agricultural), joyfully welcomed an image, a small rough

black stone, of the Great Nature or Mother Goddess Cybele from Asia Minor, because they believed it would help them to victory. The sacred images of the Goddess Diana, and of the gods Jupiter and Terminus, were unhewn blocks, and an old writer tells of thirty shapeless stones that the Greeks worshipped. The Peruvians had a legend of stones into which some men and women who angered the Creator were turned, reminding us of the story of Lot's wife changed into a pillar of salt for disobeying God. A very striking example of Jewish belief in stones as living is given in the Book of Joshua (XXIV, 27), where it is said that a stone heard all the words that God spake! Old records tell us of "decrees as late as the eleventh century condemning the barbarous worship of Stones, Trees, and Fountains and of the Heavenly Bodies," by Christians. Oaths were sworn on stones; sick people rubbed against them to be cured; kings, as is the King of England to this day, were crowned on them, while the belief in them as bringers of good fortune is widespread. As a boy, I carried a holed stone in my pocket for luck.

Standing stones, stones built up like tables and in circles, are scattered in thousands over the globe. They often mark a burial place, and veneration or fear of the dead leads to worship of them. They have given rise

to many legends of the kind just named, and the great circles especially have been the scenes of rites and ceremonies which are still performed in India and other parts of the East, where things have changed scarcely at all from the remotest times.

Sacred, also, are the great mountains whose tops pierce the heavens. There man has placed the dwellings of the gods; as of Jupiter among the Greeks; Jehovah among the Jews; and Odin among the Norsemen. Mountain-worship is found in China, and among the native races of America "almost all the mountains and high places were supposed to be the dwelling place of spirits and spirit forms."

D. **Fire.** The shooting, leaping, crackling flames, devouring what is thrown on them, and sending it off in smoke—were not these also alive? Ever since man found out how to obtain fire, his care has been to guard it. Wherever the savage goes he takes it with him, like the Papuans, who carry a smouldering stick when they travel through the jungle, and keep a fire burning in their canoes. In Malay the hearth fire must not be stepped over; among the Todas of India when a lamp is lit worship is paid to it; in ancient Greece the fire was kept burning in every house in honour of Hestia, the hearth goddess, and likewise in Rome to Vesta. There

six maidens kept alive the holy fire in the temple of the goddess, the same rites were performed in far-off Peru, where the virgins were "wives of the sun;" today, among the Bagandas in Africa, girls are set apart for a similar duty. The lit lamp in the temple at Jerusalem was never extinguished. As late as the reign of Henry VIII. the nuns of Saint Brigit or Bridget (once a pagan fire-goddess) tended a holy fire which they might not blow out with their breath, as in Persian temples to-day, where fire is an emblem of the divine, the faces of the priests are covered with veils, and as in India Brahmans are forbidden to blow a fire with their mouths. When the Kayans of Borneo pray they light something in the belief that the smoke therefrom will carry their petition to the gods, who, it is thought, enjoy the smell of things sacrificed, as we read in the book of Genesis that God "smelled a sweet savour" when Noah "offered burnt offerings on the altar." (VIII. 21.) Hence the sacredness of fire as bringing man into touch with the gods; hence also, the chief place given in India to Agni, god of fire, as also of the sun, from which it was believed that fire came. It was to the god Moloch, Jehovah and other Asiatic gods, as also to American gods of olden time, that human sacrifices were offered.

Fire was also worshipped as a cleansing thing, warding off diseases and evil spirits. For that reason, in ancient Rome tapers were burned in the chambers of newly-born babies, as in Scotland fires were kept burning near a child until it was christened. There is a saying in the Hebrides that "no evil comes from fire," and it was an ancient custom in Britain, in times of any dreaded disease, to light what is called the "need-fire" when both men and cattle were driven through it as a remedy against the evil. At certain times all fires were put out, and then relit from the need-fire, whence, perhaps, a custom in the Roman Catholic Church of putting out the candles on Easter Eve and then relighting them from consecrated newly-made fire. Every Old May Day a fire-festival, known as the Beltane, was held, probably to mark the arrival of the spring, always a season of joy. From this may have come the custom of lighting bonfires to mark some notable event.

E. **Sun, Moon and Stars.** There is nothing that would excite man's wonder at first so much as the fact that daylight was not always with him; that for a time he could see things around him, and then that the darkness crept over them and caused him to grope along his path or lie down to rest.

Each morning, before the sun was seen, rays of light

shot upwards as if to herald his coming, and then he arrived to flood the earth with more light, growing brighter and brighter till the eye could scarce look upon him, so dazzling was the glory. Then as slowly he sank again, the light rays lingering as they came until they passed away altogether.

Therefore the natural feeling of man was to bow before this Lord of Light, and, in the earliest known form of adoration, kiss his hand to it, paying it the offering of sacrifice. There is an old story, from some Jewish writings known as the Talmud, which describes very beautifully man's feeling concerning the darkness and the light.

It relates that "when Adam and Eve were driven out of the garden of Eden, they wandered over the face of the earth. And the sun began to set, and they looked with fear at the lessening of the light, and felt a horror like death steal over their hearts. And the light of heaven grew paler and the wretched ones clasped each other in an agony of despair. Then all grew dark. And the luckless ones fell on the earth, silent, and thought that God had withdrawn from them the light forever; and they spent the night in tears. But a beam of light began to rise over the eastern hills, after many hours of darkness, and the golden sun came back and

dried the tears of Adam and Eve, and then they cried out with joy and said, 'Heaviness may endure for a night, but joy cometh in the morning; this is a law that God hath laid upon nature.' "

The worship of the heavenly bodies is not only very widespread, but continued to a late age among the great nations of the past, as the names of their gods and the remains of their temples prove. In Great Britain pillars were once raised to the sun, and altars to the moon and the earth goddess, while the story of early belief is preserved in the names given to some of the days of the week, as Sun-day, Mon- or Moon-day.

Days were the most ancient division of time, and as the changes of the moon began to be watched they marked the weeks, four weeks roughly making up the time which was seen to elapse between every new moon. (Moon means the *measurer*, hence our word *month*, for time was measured by nights and moons long before it was reckoned by days and suns and years.) To distinguish one day from another, names were given; and as it was a belief that each of the seven planets presided over a portion of the day, their names were applied to the seven days of the week. The Anglo-Saxons from whom the English and American peoples are descended, consecrated the days of the

week to their seven chief gods. Sunday and Monday to the sun and moon, as already stated; Tuesday to *Tuisco*, father of gods and men; Wednesday to *Woden* or *Odin*, one-eyed ruler of heaven and god of war; Thursday to *Thor*, the god of thunder; Friday to *Friga*, Woden's wife; Saturday, the day ruled over by the planet *Saturn*. We use the name for each month of the year which the Romans gave, but the Saxon names were very different, January being called the *wolf-monat* or wolf-month, March the *lenet-monat*, because the days were seen to *lengthen*, and so on.

The sun is worshipped in some countries; the moon in others; sometimes both are worshipped, but in these cases, moon worship is often the older of the two.

I have dwelt on the fact—always to be borne in mind—that food-supply rules men's acts; whatever helps them to this is their friend, their kind god; whatever hinders this, is their evil god.

Now in torrid and parched lands the sun is dreaded, because he dries up the springs and water courses, and shrivels the food-yielding plants. So the dwellers therein welcome the moon as the kindly god, because it is at night that the refreshing dews fall and that the flocks and herds, free from the blistering sunrays, can be moved from one pasture to another. The Central

Africans dread the rising of the sun, and worship only the moon, and to her the ancient races of South America paid honours and sacrificed, because they believed that she alone helped plants and animals to grow. The birth of the new moon is, and has been, in many lands, a time of rejoicing; for example, the ancient Israelites flashed the news by fire signals from hill to hill. And her waxing and waning have given rise to a heap of customs and strange beliefs, some of which have not died out. For example, many people say that the moon's changes rule the weather, whereas they do nothing of the kind. If they did, there would never be any settled weather, because in her revolution round the earth the moon changes from hour to hour.

But it is before the sun, bringer of warmth, light, and life, that man, through all ages and many lands, has bent the knee in worship and prayer, and sacrificed that which is dearest to him. And, truly, it is a very noble kind of worship. To tell the story of it would fill a big book. It would take us to ancient Peru, where the people believed that their kings were the children of the sun; and to Mexico, with its tale of bloody sacrifices; then northward to the Blackfeet Indians of to-day, among whom the sun dance is a great yearly festival. One of them, not very long ago, said to a traveller

"We don't understand the white man's religion. The black-robed (Roman Catholic Priests) teach us one thing, the men with white neckties (Protestant missionaries) teach us another, and we are confused. The Sun God is all-powerful, for every spring he makes the trees to bud and the grass to grow. We see these things with our own eyes, and therefore know that all life comes from him." Crossing the Pacific ocean, we should find millions of Chinese sun-worshippers; in India the Brahmins would show us their sacred books which speak of the sun as "the shining god among the gods;" and in the story of ancient Persia we should read about Mithra, whose worship spread through the Roman Empire so far westwards that altars to him have been found in the North of England. It is said that our festival of Christmas Day is borrowed from the festival of Mithra as the Unconquered Sun. Both Greece and Rome had their sun gods; the one named Helios, the other Sol, about the temples and sacrifices to whom you will read in what are named "classic" histories. In Egypt Ra, the sun, was chief god, and to him more hymns were sung and more prayers offered than to any other of the many gods of that country; although it is to another god Aton, that hymns as noble and beautiful as some of the Psalms of David

were composed (see p. 196). Herodotus, who is called the "Father of History," tells a touching story of an Egyptian princess who, when dying, asked her father that she might look on the sun once in the year. And we can picture her, crimson-robed in her coffin, carried from her tomb every spring, escorted by a company of priests and maidens, to gaze upon the bright god, and then borne to her dark resting place. Sun worship must be enormously old, because all the great nations have sprung from savage races among whom that worship began. Everywhere man clings to what he has been taught to believe, and untold hundreds of years pass before any changes in religions are made, while in the rites and ceremonies which they retain they preserve traces of their origin.

In the chapter on myths about the stars I spoke of the belief that they rule human fate. Those who profess to foretell events from their movements are called Astrologers (Greek *astron*, star, and *logos*, discourse) and, strange as it may seem, there are people in civilized countries who still believe in them. The desire to know the future makes the ignorant the dupes of fortune-tellers. Among the ancient Chaldeans and Hebrews astrology was mixed up with star worship, the stars being looked on as the abode of angels and spirits.

From their unchanging places, as it seemed, in the heavens, they were named "fixed" stars; God had put them there. The stars that kept not their places, hence called "planets" (Greek, *planao*, to wander) were believed to have broken his law, and were therefore cast into "the blackness of darkness for ever." As for the "falling stars," they have been to every people a source of terror, and omens of disaster. The negroes think that they are the souls of dead sorcerers coming back to work mischief; the Welsh peasant believes that they betoken death to the inmates of the house over which they fall, and the Provençal shepherds believe that they are souls which God does not want to keep with Him.

F. **Animal Worship.** We have seen that, to the savage, everything that moves is alive, but he would not fail to notice that both animals and plants were alive in a different sort of way. The water swirled and foamed, the volcano hissed, the wind howled and the thunder boomed, but no eyes glistened from them, no huge claws sprang forth to tear. And the brute seemed, as we now know it to be, so like to man in many things, and withal was sometimes so much stronger, that it quickened his fears and impelled his worship.

Animals of all kinds play a great part in the history

of religions. Just as man's surroundings shaped his gods, so the country in which he lived ruled the animals that he worshipped. In the far North these were the bear and the wolf; further South the lion and tiger and crocodile; in ancient Egypt, the great home of animal worship, bulls, serpents, cats, crocodiles, hawks, and many other animals were sacred; further East, in India, the bull, cow and so forth; for the list is too long to be given here. With so many from which to choose, I will take as an example the serpent as worshipped not only by savage, but by higher, races well nigh all over the world. So cunning and subtle seemed that long, limbless, writhing, brilliant-coloured, uncanny thing; so deadly was its poison fang, so fascinating the glitter of the eye that looked out from its hateful face; that we can readily understand what fear it aroused. Among the four things that Solomon said were "too wonderful for him," one was "the way of a serpent on a rock." Among the Dakotahs and Shawnees the words for spirit and snake are the same; serpent worship takes hideous shapes among the Voodoos of Hayti; in Malabar a room is set apart in the house for the snakes; in Madras there is a temple to which crowds go to worship them, and in other parts of India they are believed to be the incarnation (i. e. the cloth-

ing in the flesh) of some saint or demi-god. The Ojibways and Cherokees of North America offer sacrifices to the rattlesnake as a god; the Peruvians worshipped adders, and in Tenayuco, in Mexico, an old traveller found so many huge figures of serpents which were worshipped as gods that he named it the Town of Serpents. Some of the ancient mounds scattered over the United States are serpent shaped, but their purpose is not known. In ancient Crete the snake was consecrated to the Earth Mother; in ancient Greece and Rome it was the god of healing; the citadel of Athens was defended by a great serpent, and there were snake dances in the streets of that

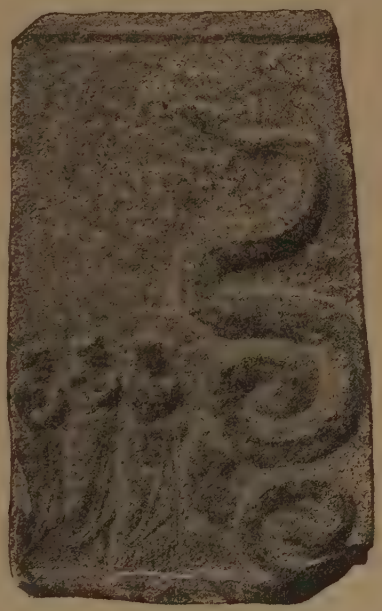


FIG. 25.—SNAKE-WORSHIP IN ANCIENT GREECE
(From Miss Jane E. Harrison's *Prolegomena to the Study of Greek Religion*)

city just as today there are among the Moqui Indians, and the Nagas of Hindustan. And just as the Moquis coil the snakes round their shoulders and hold them between their teeth, so there was an ancient Christian sect called Ophites (from Greek *ophis*, a serpent) who trained snakes to coil themselves in holy places. Much more could be told you, but I must leave off to add one singular example of animal worship among the Todas of Southern India. These people worship certain buffaloes and keep them in sacred dairies; their milk is a sacred fluid and can be drunk only by the priests who have charge of the animals. Anyone may drink the milk of other buffaloes. In some part of England today when a cow is milked, a few drops are spilt on the ground, perhaps a relic of sacrifice to the Earth Mother.

Savage belief in kinship with animals may explain how even among civilized people they came to be regarded as wilfully causing the death of men, women and children, and were actually tried and if found guilty were hanged or burnt. Under the Hebrew code if an ox gored a man or woman it was stoned to death (Exodus XXI. 28), and in the annals of animal trials, the chief offenders were pigs accused of devouring young children. In the case of caterpillars and other insects which damaged fruit and other trees, because

they could not be easily captured, they were cursed by the priests, so that they might not return or die. And this punishment of animals went on for a thousand years in Europe! In ancient Athens if a man was killed by a stone it was tried and condemned to be cast outside the city borders, and this is only one of a heap of examples of punishment also of lifeless things which had caused death.

G. **Trees.** This worship is found all over the world. The life that, locked up within trees and plants during the long winter, burst out in leaf and flower and fruit, and seemed to moan or whisper as the breezes shook creaking branch and murmuring leaf; was that not also the sign of an indwelling spirit?

The Ojibways dislike cutting down growing trees, because it puts them to pain: the West Indian negroes are very unwilling to cut down the big silk-cotton tree through fear of the "duppy" that lives in it. The Dyaks of Borneo and the Filipinos will not fell certain trees because they believe that the souls of the dead dwell in them: the "primitive pagans" of Southern Nigeria, as they are called, say that "when any of us dies his spirit goes into the big tree, and this is why we will not have it cut," and in Oko the natives will not use certain trees to make canoes lest the spirits should

kill them. The natives of Berar in India will not even use dead wood; the Siamese offer cakes and rice to the takhien tree before they fell it, while, in like custom, the Austrian peasant begs pardon of a tree before his axe touches it, and the Irish rustic will not cut down the white thorn, because the crown of thorns which tortured Jesus was said to have been made from it. An old writer of the seventeenth century says that "when an oake is being felled it gives a kind of shriekes or groanes that may be heard a mile off as if it were the genius of the oake lamenting." Turning to classic ground, the ancient Roman farmer, before clearing the soil of trees, fearing the anger of their spirits, sought to appease them with sacrifice and prayer, and the Greek woodman of today, as he plies his axe and causes the tree to tremble to its fall, throws himself facewards on the ground lest the Dryad driven out of the tree should see and punish him.

Like all unlettered people in their beliefs, he did not invent this; it came down, with other primitive ideas, from remote times when his forefathers peopled sea, stream, tree and hill with nymphs; Naiads of the springs, Oreads of the mountains, Dryads of the trees, and Nereids of the deep waters; nymphs of whom an ancient hymn sings:

"At their birth there sprang up pine trees or tall-crested oaks on the fruitful earth, flourishing and fair, and on the lofty mountains they stand and are called the groves of the immortal Gods which in nowise doth man cut down with the steel. But when the fate of death approaches, first do the fair trees wither on the ground, and the bark about them moulders, and the twigs fall down, and even as the tree perishes so the soul of the nymph leaves the light of the sun."

In the last words of these lovely lines there is the old belief that the fate of the spirit is wrapped up with that of the tree. So is the fate of man and the fortunes of the harvest, leading to a heap of customs to secure the help of the tree and plant spirits; from the sacrifice of human beings and scattering their remains over the fields to the kindlier festivals which have lived on in Jack-in-the-Green and other May-Day frolics. All life being the same to the savage, he believes that he has descended from trees as well as from animals, and the belief has survived in many forms. In the Greek legend the god Zeus made a race of men from the ash; in Norse legend the sons of Bor took two trees and made men out of them; in the Mexican, one of its lines of famous kings was said to be the offspring of two trees. Some of the great gods, Tota in Mexico; Jupiter Feretrius (oak god) in Rome; Dionysus in Greece, were worshipped in tree form. Then among different peoples we read of World Life-Trees, like the

Yggdrasil of Norse myth, the tree of fate and knowledge, reminding us of the Tree of Knowledge of the Bible story, which, like some other legends in the Book of Genesis, is borrowed from Babylonian sources.

This little book could be more than filled with talk about tree worship and all to which it has led. Much could be said about the sacred groves of savage and historic lands, from those of Africa to Britain, home of the Druids, and about all the rites carried on in them to ward off or cure diseases and avert other troubles, but there is only one interesting thing which I can stop to name, and that is that ages before temples, with the images of the gods in them, were built, forests were used as temples. One proof of this is, so a learned German tells us, that the word temple means *wood*. The Latin *templum* means something "cut off," that is, set apart as sacred. There the gods were sought; there were the spots whither man brought his offerings to them and invoked their help. In this, as in other things, we and early man come near together, for the noble trees and the richly coloured, fragrant flowers that spring from the Earth Mother can never fail to delight both young and old, and to make the thoughtful feel how near akin is their life to ours. A great poet has confessed, and who can gainsay him?

'Tis my belief that every flower
Enjoys the air it breathes.

H. Man. Men have worshipped other men: living ones only rarely; and dead ones who, as is believed, live in the spirit land, nearly all the world over. But what I have to say about this will more fitly be told in the twenty-seventh chapter, which deals with the belief in a soul and a future life.

XXIV

BELIEF IN MAGIC AND WITCHCRAFT

All the rites and ceremonies that mankind practise have for their object the winning of the favour, or warding-off the wrath, of gods and lesser spirits. And as the man who was the chief of the tribe became so because he was the strongest in body, the most fearless hunter and the bravest fighter, so the man who was most shrewd and agile of brain, who laid claim to "occult" that is, to hidden power, became the magic-worker. The tribefolk believed that he had power over the unseen and dreaded; he may sometimes have believed it himself, and hence their ready yielding to that power. Magic-worker, wizard or sorcerer, "medicine man" or priest, for he is called by one or other of these names in different countries, he persuaded the people that he could make rain or sunshine, cause or cure diseases, which, like death itself, are believed by savage races to be the work of evil spirits; foretell events, cast spells and charms over men and women, so that they often died through sheer fright;

bewitch them by getting possession of their hair-cuttings or nail-parings, or saliva, or, what seems to us oddest of all, finding out their name, which is in savage belief, a part of a man's self, and therefore kept hidden lest black magic be worked by him who gets to know it; change himself into animals and plants; work himself into a frenzy, which to others was proof that he was in close touch with unseen powers. In short, there is, among the lower races, no event in their lives which does not fall to the magic-worker to control, because he works on their hopes and fears. White Magic is when he uses his power for a good purpose; Black Magic is when he uses it for a bad one. And the essence of magic is belief in numberless spirits everywhere who possess non-natural power, linked to the belief that the sorcerer has power to make these spirits do his bidding. So he has a very good time, and plenty to do. Ages back, when one man did many things, he was both sorcerer and priest, but in the course of time it fell to the one to work all the marvels of the magic art, and to the priest to offer sacrifices and prayers, and otherwise lead the people in their worship of their gods. Medicine-men, rain-makers, wizards, conjurors, and sorcerers, these have abounded everywhere; and even among us now there

are found, under other names, people who think that they have power with the unseen and that they know more about the unknown than has ever been or will be given to man to find out.

This belief in magical arts, which is firmly rooted among the lowest tribes of mankind, has only within the last two hundred years died out among civilized people, and even lingers still in out-of-the-way places among the foolish and ignorant, who are always ready to see a miracle in everything that they cannot understand. Connected with it is the horrid belief in witchcraft, through which many thousands of innocent people have been burned! The last victim in England was a poor man who was swum by a mob just sixty years ago. The suspected person was flung into water, and the guilt was proved if he or she floated. Witchcraft spread with a belief in the devil, who being looked upon as the enemy of God and man, was regarded as the cause of all the evil in the world, which he worked either by himself or by the aid of agents. It was held that persons had sold themselves to him, he in return promising that they should for the time being lack nothing, and should have power to torment man and woman and child and beast. If anyone, therefore, felt strange pains; if any sad loss came; it

was believed to be the maliceful work of witches. It was they who caused the devastating storm; the ruin to the crops; the sudden death of the cattle; and when anyone pined away in sickness, it was because some old witch had cast her evil eye upon him or made a waxen image of him and set it before the fire, that the sick man might waste away as it melted. The poor creatures who were charged with thus being in league with the devil were sought for chiefly among helpless old women. To have a wrinkled face, a hairy lip, a squint eye, a hobbling gait, a squeaking voice, a scolding tongue; to live alone: these were thought proofs enough, and to these miserable victims torture was applied so cruelly that death was a welcome release.

What is called *Divination* is a branch of Magic. It works in two ways: 1. In seeking knowledge of the future by watching the movements of the heavenly bodies or by dreams and unlooked-for happenings; and 2. By killing an animal and inspecting its inside. Among both savage and ancient peoples the liver was most often chosen as the sign-giver because it was believed to be the seat of the soul. In an old Babylonian book it is said: "If the signs of the liver of the animal can be read, the mind of the god becomes

clear. To read the god's mind is to know the future."

Taboo. Before we leave Magic, something must be said about taboo (a word borrowed from the Polynesians). This means the setting of something apart which must not be touched or eaten or trespassed upon; or the hedging round of certain men, as chiefs or priests, so that they may be kept wholly apart from the common people. Those who broke taboo were threatened with curses and severe punishment, the effect of which often was that the offender fell sick and died of sheer funk. As an example of this, some New Zealand natives found and used a tinder-box, not knowing who was the owner, and when they heard that it belonged to their chief they all died of fright.

One chief object of taboo was to protect food and property from being stolen, and hence shells, ropes and other things would be put round trees and gardens. In Samoa a stick was hung crosswise on a tree to signify to anyone stealing the fruit that he would have a disease through his body, and remain fixed to the tree till he died. Banana leaves were put near a doorless hut to show that it must not be entered, and branches laid across a road as a warning, just as now-a-days we read at the entrance to private properties

"Notice: Trespassers will be prosecuted." In East Africa no one dare steal from a smith, because he knows how, when heating his furnace with the bellows, to put such a curse on the thief that he dies. Then stones were put up to mark the ownership of land, and hence were believed to be sacred. Everywhere boundaries are marked in some way, and in ancient Rome one of the chief deities, Terminus, as god of boundaries, shared the great temple on the Capitol with Jupiter, and all over the country festivals were held in his honour. Even the names of people were sometimes tabooed, because as already told you, it was believed that to disclose them was to put the named in the power of another. It is a world-wide belief that to name the dead will cause them to appear, hence they are even more tabooed than the living. In some religions the real name of the god may not be uttered, and another name is used. As I write this, I read in a newspaper that a number of monks have been expelled from a famous monastery on Mt. Athos, in Greece, because they say that the name of God is an actual part of God Himself. But a long chapter would be needed to tell of all the superstitions that have gathered round names.

It was round chiefs and priests and sacred places

that the taboo is made a ring-fence. Chiefs were looked upon as gods: no one dare touch them, they were believed to have magic powers. In the East and in ancient Rome Emperors were worshipped as gods, and long after then people continued to believe in the divine right of kings. Sorcerers or medicine-men, are sacred, and, still more so, the places where the spirits dwell: a belief which still lives on in the idea that a church is a sacred place, and that a house is not.

But taboo, while it did much mischief, for the belief in the power of a curse has brought terror and real harm to numberless innocent people, did some good in safeguarding life and property where these were insecure, and in paving the way for the laws which are made by every people for the common good.

XXV

FETISH WORSHIP AND IDOLATRY

THE very lowest form of worship is that paid to lifeless things in which some power is thought to dwell, and is called "fetish" worship, from a Portuguese word meaning a *charm*. It does not matter what the object is; it may be a stone of curious shape, the stump of a tree with the roots turned up, even an old hat or a red rag, so long as some good is supposed to be had, or some evil to be thwarted, through it. So offerings and prayers are made to the stone or stump as the thing which the spirit is believed to occupy. Each man may have his own fetish, or there may be a fetish of the tribe; in either case the spirit inside the thing is obtained by the help of the village sorcerer.

The customs of worshipping a fetish as the abode of a spirit and of setting up an idol, although they may appear the same in their purpose, are different in practice. The word "idol" comes from a Greek word meaning an *image* or *form*; for, unlike the fetish, it is often cut or carved in some sort of shape. The mate-

rials out of which different races shape their gods show us what their ideas are. These may be mere bundles of grass or rudely daubed stones, or carved with the care and detail displayed in the household idols of the East. If the god is believed in as all-powerful, a huge image will be built, to which will be given a score of arms and legs, the head of a lion, the feet of a stag, and the wings of a bird. Sometimes the images were made hollow so that the priests could get inside them and speak through them, the people believing that it was the god himself who spoke, whence perhaps came belief in oracles, as among the Druids and ancient Greeks and Egyptians. Sometimes it is treated as only an image or symbol of the god or gods believed in, and is not mistaken for the god itself. But it has frequently been regarded by savages and the ignorant as a god, and believed to hear prayer, to accept gifts, and have power to bless or curse, and then it plays the part of a fetish. It is held to blame if its owner does not get what he wants. The Negro beats his idol if he has no luck: the Ostyak of Northern Asia thrashes his if he kills no game; the Chinese drag theirs in the dirt till they get what they want; then they clean and regild them. There is an amusing story of a Chinaman who paid an idol to cure his daughter, but she died, so he

brought an action against it, and it was banished from the temple. There are many other stories of idols maltreated for not doing what their worshippers wanted, while as showing how real they are to them, we read of Russian peasants covering up the pictures of a saint so that he should not see them do wrong; and of Italian robbers praying to images of the Virgin Mary for success, and promising her a share of the plunder.

Idol worship is not universal: it is rather late in man's history; it is absent or rare among many savage races, and is forbidden among Mohammedans, Jews, and Protestant Christians.

XXVI

SACRIFICE AND PRAYER

1. **Sacrifice.** The reason for offering sacrifices is explained by man's dealings with his fellow-man.

When we feel that we have vexed our friends, or that for some cause they are angry with us, our first desire is to remove the anger by an offering of some kind; while towards those to whom we feel grateful for their kindness, we show our love and thanks by gifts.

In this way, sacrifices or offerings to the dead, both to supply their supposed needs, and to appease their spirits; to idols; and to the seen and unseen powers of good and evil, began; and have continued in different forms among all nations to the present day. One kind of sacrifice is offered from a feeling of thanksgiving; another as a bribe to quiet or appease the gods thought to be angry, and who, being looked upon as big men, were thereby supposed to be humoured like cross and sulky people.

A large number of sacrifices were made to the gods to insure their help; so that the harvests might be abundant, and the flocks and herds multiplied. Of course

men would offer the best of what they had, and would pick the finest fruits and flowers as gifts to the gods, or burn upon a raised pile of stones called an altar the most spotless of their flocks. Sometimes the sacrifice takes the form of a meal shared with the gods, who are believed to enjoy the essence of the thing offered as it ascends to them in the smoke (see p. 129). Often, believing thereby to win the favour of the gods, men mutilate and starve themselves, and work themselves into a state of frenzy whereby they lose all self-control. In village festivals of the gods in the East, when excitement runs high, they will pierce their tongues with skewers, and the skin of their backs with hooks on which they swing in mad dance to the beating of tom-toms. And because the surrender of the nearest and dearest was often thought necessary to allay the anger, or secure the help, or ward off the vengeance, of the god, the lives of dear ones were offered, and this is one of the chief causes of the hideous and revolting rites which curdle one's blood to read about, and of which every land and every age have been the spectators. It was the appalling story of human sacrifices that made a great Roman poet utter bitter words about the cruel deeds which religion could prompt men to commit.

2. **Prayer.** To cry for help when we are in danger

is our first act; to ask for what we want from those who seem able and willing to give it is both natural and right. So man prayed to his gods, and prays still, for to the end of time the deep long cry of mankind to "blocks of wood and stone" and to the unseen powers around and above him will continue. Rude and hideous as may be the idol to which the poor savage tells his story of need or sorrow, we must stand in awe as we think of the soul within him that hungers for its food, even as the body hungers for the bread that perisheth. Of course he prays in his ignorance for many weak and foolish things, to grant which would be really hurtful to him. In this he is like children who ask their parents for something which those parents know is not good for them, and who think themselves badly treated because they are denied it. At its lowest, prayer is offered for the needs of the body, as when the North American Indian asks his god Wohkonda to help him to be able to take scalps or capture horses; or as when the Gold Coast negro asks his god to give him plenty of rice and yams and gold; or as when people in churches pray for rain, or, in time of war, that God will give them the victory over their enemies, who are also praying to him to give *them* the victory.

At its highest, prayer is offered to satisfy the hunger

of the soul. All of us know what is called the Lord's Prayer, and here are two ancient prayers wherein what is asked for may find an echo in our hearts. One of them is the prayer of Agur in the Proverbs of Solomon (XXX. 7–9).

"Two things have I required of thee; deny me them not before I die. Remove far from me vanity and lies; give me neither poverty nor riches; feed me with food convenient for me; lest I be full and deny thee, and say, who is the Lord? or lest I be poor and take the Name of my God in vain."

Older than this is one uttered, perhaps more as a pious wish rather than to any god supposed to hear, by a Greek whose name is unknown.

"May I never devise evil against any man, if any devise evil against me, may I escape uninjured and without the need of hurting him. May I love, seek and attain only to that which is good. May I wish for all men's happiness and envy none. May I never rejoice in the ill-fortune of one who has wronged me. . . . May I to the extent of my power, give all needful help to my friends and to all who are in want. When visiting those in grief may I be able by gentle and healing words to soften their pain. May I accustom myself to be gentle and never be angry because of circumstances. May I never discuss who is wicked and what wicked things he has done, but know good men and follow in their footsteps."

When I read this, I thought of the wise words of a friend who said, "Who rises from prayer a better man, his prayer is answered."

XXVII

ANIMISM: MAN'S IDEAS ABOUT THE SOUL AND A FUTURE LIFE

1. **The Soul.** We have learnt that because man saw all nature to be in motion, he believed that spirits dwelt in all, hence the world-wide belief in what is called Animism (from Latin, *anima*, life or soul). *Words* come in to tell us what in the course of time was man's notion about a soul. The difference between the living and dead is this: the living man breathes and moves; the dead man has ceased to breathe and is still. Now the word *spirit* means *breath*, and in the leading languages of the world the word used for *soul* or *spirit* is that which signifies *breath* or *wind*. But the learned and the ignorant alike have not, nor is it possible that anyone ever can have, any clear idea about the soul. The common notion is that at death it leaves the body as a sort of filmy thing or shadow or vapour. The Congo negroes leave the house of the dead unswept for a year lest the dust should injure the delicate substance of the

ghost; English, Chinese, and Indians alike will keep some door or window open through which the departing soul may leave, and it is a German saying that a door should not be slammed lest a soul be pinched in it!

The savage thinks that the spirit can leave the body during sleep, and so whatever happens to him in his dreams seems as real and true as if it had taken place while he was awake. If he sees some dead friend in his sleep, he believes either that the dead have come to him or that his spirit has been on a visit to his friend, and he is very careful not to awake anyone sleeping lest the soul should happen to be away from the body. This idea of his "other self," as it has been called, would be quickened by seeing his reflection in water, by his shadow, which the Fijians called "the dark spirit," by the mocking echo of his voice, and other things. Believing that a man's soul could go in and out of his body, it was also thought that demons could be drawn in with the breath, and that yawning and sneezing were proofs of their presence. So what is called an invocation was spoken to ward them off, of which we have a trace in the custom of saying "God bless you" when anyone sneezes.

According to an old Jewish legend, "The custom of saying 'God bless you' when a person sneezes dates

from Jacob. The Rabbis say that before the time that Jacob lived, men sneezed once and that was the end of them; the shock slew them. This law was set aside at the prayer of Jacob on condition that in all nations a sneeze should be hallowed by the words 'God bless you.'"

Diseases were said to be caused, among other things, by the soul staying away too long from the body, and the bringing of it back is a part of the priest's or wizard's work. Among all the peoples of Borneo it is believed that when anyone is very ill the soul has left the body, and a soul-catcher is sent for to recapture it. He shows something small in which he pretends that the soul is lodged; this he puts on the sick person's head and rubs it in, thus making believe that the soul has re-entered the body. If the patient dies, his relatives shout in his ear, "Come back; here we have food ready for you." Savages dread having their portraits taken, because they think that this takes their souls out of themselves. When a French doctor was in Madagascar and photographed some of the natives, they accused him of taking their souls to sell when he left, and, to pacify them, he had to pretend to catch the souls in a basket and return them to the people whom he had photographed.

All these ideas, crude as they are, live on among

people long after they have risen from savagery, and in fact remain among us, although their first meaning is hidden in such sayings as a man being "out of his mind," or "beside himself," or "come to himself." If the body has suffered any loss in limb or otherwise, the soul is thought to be maimed too. And the belief that it will need, after it leaves the body, all the things which it has had here explains the custom of killing wives and slaves to follow the deceased; and, as among very low races lifeless things are said to have souls, of placing clothes, weapons, and ornaments in the grave for the dead person's use in another world. It is within a very few years that in Europe the soldier's horse that follows his dead master in the funeral procession was shot and buried with him.

Man regarding himself as surrounded by spirits, dwelling in everything and all-powerful to do him good or harm, shaped his notions about them as they seemed to smile or frown upon him. Not only did he look upon sickness as often the work of demon spirits, but in his fear he filled the darkness with ghosts of the dead rising from their graves, shrieking at his door, sitting in his house, tapping him on the shoulder, and breaking the silence with their squeaking or whistling tones. Even today the report that a ghost has been

seen will draw crowds to the spot, and many people are afraid to sleep in a room which is said to be haunted. For there is in all of us a certain amount of fear, which has come down to us from remote forefathers and which is aroused when anything unsuspected happens. It "makes us jump" as we say. Knowledge, and knowledge only, drives away belief in bogeys, and ghosts, and other ghoulish things.

2. **The Future Life.** The rude beliefs about spirits and dreams, and the customs observed at burials, show us that, however shapeless man's idea of another life may be, he has from the earliest times believed that the spirit or *breath*, the ghost (which comes from the same root as *gust*), departs to dwell elsewhere when the body is cold and still in death. The highest and lowest races of men have tried to form some notion of what that blessed state is like where happiness is given to the good, where friends "loved long since and lost awhile," will, with smiling angel faces, welcome us; or what that dark state may be where misery and wanhope (despair) dwell. As savages believe that both diseases and death are due to sorcerers or to evil spirits, they do not, as we do, draw any line between this world and another; the dead are thought of as continuing their life here in ghostly form. The belief that the soul can live

apart from the body and that animals, plants and lifeless things have souls, makes easy the passage to or belief in what is called Transmigration, or the transfer of a man's soul to another man, or to an animal, plant or lifeless thing. And this belief survives in some of the higher religions, as in Hinduism and Buddhism. The deeds that anyone does in this life rule his fate in the next. In India the thief who steals gold will become a rat; the cruel become some blood-thirsty beast; in Africa the souls of good men become snakes, and the souls of bad men jackals. So deeply-rooted is the feeling that the dead are alive and even more powerful to help or harm because their spirits, free from their bodies can wander whither they choose, that the worship of ancestors is one of the oldest and most widely spread of all cults (Latin, *cultus*, "worship," and also "tilling," as in our word "cultivate"). In India, to this day, the making of dead men into gods goes on among the lower tribes. Even in their lifetime men renowned as powerful or holy have been worshipped, and well nigh every people has its culture-hero who is adored as having founded cities, brought knowledge of farming, or of working in metals, or who, like Prometheus, stole fire from heaven for the use of men; or who, like Cadmus, taught them the alphabet.

In the honours paid to the dead in China ancestor-worship reaches its highest pitch. From time to time there appear notices in the *Pekin Gazette*, the oldest newspaper in the world, that this or that dead person is promoted to high rank, or made a god. In 1907 the Emperor of China issued a decree that the famous sage Confucius, who lived five hundred years before Christ, should be raised from the level of the sun and moon to the level of the heaven and the earth, and his spirit given a place equal to that of the dead emperors themselves. When the Japanese were at war with Russia in 1905 Admiral Togo addressed the spirits of the departed and gave thanks to them as those through whose help the victories had been gained. But we need not go to the Far East for examples. Among millions of Roman Catholics and Mohammedans the worship of saints, numbers of whom are old pagan gods whose names have been only slightly changed, prevails; prayers and offerings are made to them; and their burial places held so sacred that their graves have become the sites of churches and temples. In their lifetime they were believed to possess magical power, as we read in the Acts of the Apostles (XIX. 12) about Saint Paul that "from his body were brought unto the sick handkerchiefs and aprons, and the diseases de-

parted from them, and the evil spirits went out of them." In Roman Catholic churches every altar must have within it the relics of a saint, so for hundreds of years there has been ceaseless demand for relics, especially those of martyrs. One relic most coveted is a piece of the Cross on which Jesus Christ was crucified, and which was said to have been discovered by the Empress Helena, mother of Constantine. Little fragments of it were given to the most important churches. But these and numberless other relics, many of which are believed to work miracles, are frauds. Quite a large trade in them was carried on between Europe and the East. Only two years ago, the priests of St. John's Roman Catholic church in New York were grief stricken because a part of the sepulchre in which Jesus was laid, a piece of the rope with which he was scourged, and other relics, were stolen. Shortly before then a Prince offered £800,000 for the remains of Nicholas, the patron saint of Russia. Louis the Ninth of France, who lived in the thirteenth century, built a famous chapel wherein were preserved a piece of the Cross, the rod of Moses, a portion of the baby linen of Jesus, of the lance, chain and sponge of his Passion, and a part of the skull of Saint John the Baptist. Herein, as in so much else, the civilized is one with the

savage who carries about with him the skull bones of his ancestor as a charm against evil spirits and sorcerers. But so endless is the chapter of man's credulity (Lat. *credo*, to believe) that a big book could be filled with a list of the relics in the churches and monasteries of Europe alone.

While among higher races we find the ideas about an after-life and another world less crude than among lower races, they have one thing in common. They put into shape what they most desire; their pictures of heaven perforce are copied from the earth; and all that they love here, whether chaste or coarse, they hope to have in larger measure there, even as they wish to shut out from thence all that they dread now. The thought that the two worlds are thus linked together is very beautifully expressed in one of the old Persian sacred books. The soul of a good man is pictured as being met in the other world by a lovely maiden, "noble, with brilliant face, one of fifteen years, as fair in her growth as the fairest creatures. Then to her speaks the soul of the pure man, asking, 'What maiden art thou whom I have seen here as the fairest of maidens in body?' She answers, 'I am, O youth, thy good thoughts, words, and works, thy good law, thine own law of thine own body. Thou hast made the pleasant yet pleasanter to me, the fair yet fairer.' "

Man has placed his heaven in some far-off Island of the Blest, or in some sunny land,

> "Deep meadow'd, happy, fair with orchard lawns
> And bowery hollows crown'd with summer sea."

Or he has thought of the soul as departing to the west where the sun sets, or to the sun, moon, and stars themselves. This explains the Christian custom of burying the body with its head to the west, so that at the resurrection day it should rise looking towards the east; a custom also found among the ancient Greeks and other peoples.

XXVIII

POLYTHEISM: OR BELIEF IN MANY GODS

I HAVE dwelt on the importance of your remembering that there has never been any break in the history of man, whether as Worker or Thinker. This makes clear why his ideas about things melt one into the other, so that he has never wholly got rid of his old beliefs in advancing to newer ones.

Among the higher races we find the belief in swarms of spirits leading up to a belief in groups of great gods, each ruling some part of nature. Such are Wind, Rain, Thunder and Air Gods; Forest, River, and Sea Gods; Seedtime and Harvest Gods; Gods of War, Disease, Death and the Underworld, and so on through a long bewildering list. Much that I have said already about nature-worship applies to the worship of these deities, and need not be repeated. In ancient Egypt each nome or province had its own god; among the Hebrews, Jehovah was a god among other gods, becoming a chief, and, later on, the only god; in Rome, gods from other lands were admitted to a place in her

Pantheon (Greek *pan*, all; and *theos*, a god), the number becoming so large as to give rise to a witty saying that the city was too thickly peopled with them to leave room for men.

Polytheism, therefore, included various beliefs; it rarely led to disputes as to whether one god was true, and all the others false; and a long time passed before men quarrelled over these matters and that so bitterly as to burn their fellow creatures for "heresy." (Greek *haireo*, to choose, that is, to think for one's self.)

It is in Polytheism that belief in gods as "non-natural" men takes shape. Trying to imagine what they must be like, man could not make the gods in any other image than his own. There was nothing else with which to compare them, and this *anthropomorphism*, as it is called (Greek *anthrôpos*, man, and *morphê*, shape) runs through all the higher religions. Xenophanes, an old Greek writer, who lived five hundred years before Christ, shrewdly says: "Men think that the gods were born as men were born, and that they have forms, countenances and habits, such as mortals have. The Ethiopian makes his god black, and the Thracian makes him blue-eyed and blond. And if animals had hands wherewith to fashion images, as men have done, they would give to the gods animal shapes

like their own: and the gods of horses would have the shape of horses, and those of oxen the shape of oxen." But, Xenophanes adds, there is but One Supreme God, who is like mortals neither in body nor in thought. As showing that the Hebrew conceived of God as a sort of very big man, the Book of Genesis narrates how he walked in the garden of Eden, spying out whether Adam and Eve were disobeying his commands, while in another book we are told that God helped Judah to drive out the inhabitants of the mountains, but that he "could not drive out the inhabitants of the valley, because they had chariots of iron." (Judges I. 19.)

When we read these and many other stories of the like kind in the early books of the Bible describing God as doing and approving actions which all right-minded people would shrink from doing, we must keep in mind that they are of value in telling us what crude notions about God were held at the time those books were written. Many centuries passed before the Jews advanced to the higher ideas which we find in the later books of the Old Testament, as in some of the Psalms and prophetic writings.

XXIX

DUALISM, OR BELIEF IN TWO GODS

Man, as he came to think more and more about things, and not to be simply frightened into an unreasoning worship of living and dead objects, lessened still further the number of ruling powers, and advanced to a belief in two mighty gods fighting for mastery over himself and the universe. Becoming by degrees conscious of himself as a person, his gods were conceived of more clearly as persons, and became reduced in number.

On the one hand was a power that appeared to dwell in the calm, unclouded blue, and with kind and loving heart to scatter welcome gifts upon men; on the other hand was a power that appeared to be harsh and cruel, that lashed the sea into fury, covered earth and sky with blackness, swept man's home and crops away in torrent and in tempest, chilled him with icy hand, and gave his children to the beasts of prey. One a god of light, smiling in the sunbeam; the other a god of darkness, scowling in the thundercloud; one ruling

by good and gentle spirits, the other by fierce and evil spirits. And belief in these lesser spirits doing the bidding of the Powers of Good and Evil has never wholly died out save among people who may rightly claim to be civilized.

Many religions contain traces of dualism; as, for example, in ancient Egypt we find Osiris the good god and Sat, the evil god, who like all such, had more worship paid to him because people were afraid of him; and in Madagascar today the good god Zamhor and the evil god Nyang. But it takes more complete shape in the old Indo-European religions. In the Scandinavian we find Baldur, the god of light, and Loki, god of darkness, who was father of the goddess Hel, whose name meaning "to cover," or "conceal," has been given to the dark underworld of the wicked. In the old Hindu religion, Indra, the god of the day, struggles with Vritra, the god of night and evil things. From this may have sprung the very ancient Persian belief in Ahura-Magda or Ormuzd, the god of light, who wages ceaseless war with Angra Mainya, or Ahriman, the god of darkness. That belief, which gave birth to a noble creed urging men to fight the evil and practise the good, has interest for us, because when the Jews were captives in Babylon, the great home of belief in

crowds of demons, they borrowed the idea of a Chief Spirit of evil, to whom the name Satan was given. Before then they believed that their god Jehovah sent both good and evil, but in the course of time Satan, or the Devil, was looked upon as a mighty power, wandering up and down the earth "like a roaring lion seeking whom he may devour" and employing crowds of demons to tempt men to evil and drag them down to hell. And it is only in the last few years that this belief in the devil and his angels, which terrified people for hundreds of years, has died out except where ignorance and fear still prevail.

XXX

MONOTHEISM, OR BELIEF IN ONE GOD

We come across faint traces of what looks like belief in a High or Supreme God among some savages, but that name has been given by missionaries, and is misleading, since it is found to cover only crude ideas about the great powers of Nature. Sometimes this idea of One Great Spirit has been due to missionary teaching, and then it is difficult to separate native beliefs from those which have come from outside.

For example, it was thought that the following legend showed that the Polynesians had reached the high stage of Monotheism in what they said about their god. "Taaroa was. Taaroa was his name: he dwelt in the void. No earth, no sky, no men. Taaroa calls, but nought answers, and alone existing he became the universe. The props are Taaroa, the rocks are Taaroa, the sands are Taaroa; it is thus he is himself named. He founded the world as a solid rock, which became his wife, the foundation of all things, who gave birth to earth and sea." But when it was

discovered that the name of the rock is Papa, the Earth, it was clear that we have in the legend the old, old story of the great first parents of all that is, Heaven and Earth. Here and there, as among the wisest of the ancient Greeks, we may listen to a voice speaking of the unity of God, but in so far as the world's great religions are concerned, there are only three which proclaim that doctrine—the Jewish, Christian and Mohammedan. The Jewish and the Mohammedan are more purely monotheistic than the Christian, the creed of which is that there are Three Gods in One. As already said, many centuries passed before the Jews reached to that belief in One God whom we read about in the sublime language of some of their prophets, Isaiah the chief among these. As they read the wonderful stories of what Yahweh or Jehovah had done for them, they came to regard themselves as a chosen people, a belief which they have held for centuries, and which largely explains why they have kept themselves apart from other races, refusing to marry with them, and even to eat the same food as other people.

It was in this belief in Jehovah that Jesus Christ, who was of Jewish birth, was reared. But he gave a fuller and more beautiful meaning to it when he spoke

of him as All-Father, because that carried with it the idea that all mankind are his children. Some time after Jesus died, he became, like other great teachers, worshipped as a god, and when his Gospel, as it is called, spread in countries westwards, where Greek-speaking Jews had settled—chiefly in Egypt—it lost its simple features and became blended with bewildering ideas, the result of which was the doctrine of the Trinity; that is, of a Father, Son, and Holy Ghost as Three Persons in one God; a doctrine held in many forms by various nations, as shown in the list at the end of this chapter. So important did belief in the Trinity become that those who refused to accept it were threatened in a creed still read in many Christian churches with everlasting punishment in hell. No one would have been more surprised than Jesus himself if he could have known that he was to be worshipped as a god; and no one more pained if he could have known that men would fight and kill each other over quarrels as to whether he was a god or a man. But very slowly, and after many centuries, the world grows wiser and kindlier, and people are coming to see that the one thing which matters is not the creed that men believe, but the deeds of charity and mercy that they perform.

A simpler creed was proclaimed six hundred years

after the birth of Jesus by Mohammed, who declared that God is one. With this there was mixed-up belief in sinless angels and jinns or demons under a chief devil, but the same belief is held by the larger number of Christians, and does not destroy the doctrine of the Oneness of God. Two thousand years before Mohammed, there reigned in Egypt a King of great piety and purity of life, named Akhnaton, so beloved by his people that they called him "Lord of the Breath of Sweetness." Freeing himself from the power of the priests, who were angry because he gave up belief in animal, sun and weather-gods, he founded a new city where he set up the worship of Aton as the One God. He taught the people to pray and sing to that god as their Father in heaven and as the Lord of Love and Peace. He permitted no image of Aton to be made, and the sun's disc, which was his symbol, was not worshipped. But because he hated war and other evils, he refused to do battle, and in the end lost his kingdom, and "there died with him such a spirit as the world had never seen before."

And the priest-led people returned to their old beliefs, wherein is one of many examples in history that religion is rarely entirely freed from the lower ideas whence it sprung.

TRINITIES

Babylonian...	Anu (Lord of Heaven)	Bel (Lord of Earth)	Ea (Lord of the underworld)
Christian.....	Father	Son	Holy Ghost
*Egyptian....	Osiris (Corn—sometimes, Sun-God)	Isis (his wife)	Horus (her son)
Greek.....	Zeus (Heaven-God)	Poseidon (Ocean-God)	Hades (God of the underworld)
	Zeus	Athênê (Goddess of Wisdom)	Apollo (Sun-God)
†Hindu and Vedic	Brahma (Creator)	Vishnu (Preserver)	Siva (Destroyer)
	Indra (Sky-God)	Sueya (Sun-God)	Agni (Fire-God)
Roman.....	Jupiter (Lord of Heaven)	Juno (Queen of Heaven)	Minerva (Goddess of Wisdom)
Scandinavian.	Odin (All-Father)	Thor (Thunder-God)	Loki (God of Evil)

* Many of the Egyptian gods were in triads, and some were also grouped in enneads or nines. The sculptures of Horus in the lap of Isis gave rise to the Catholic images and pictures of the Virgin Mary and Jesus. "Isis and Horus ruled the affection and worship of Europe with a change of names," and they largely rule it still.

† This is sculptured in the Elephanta caves at Bombay as three heads springing from one body.

XXXI

THREE STORIES ABOUT ABRAHAM

ABRAHAM, so we learn from the Book of Genesis, was a native of the country called Chaldea. The clear sky of that Eastern land invited the people dwelling in it to the study of the sun, moon, and stars, and they not only worshipped these bodies, but sought to foretell the fate of men from them. An ancient historian tells us that every Chaldean had a signet and staff bearing the sign of the planet or stars that were seen at his birth. Some have said that Ur, the city where Abraham was born, was a chief seat of sun-worship, and that its name means "light" or "fire." Hence Abraham's early years were spent among sun-worshippers, and it may interest you to know that his name and memory are held in high honour, not only by the Jews, but also by the Persians and Mohammedans. That he was far from being a perfect man is shown in the story of his life, but the great value of the biographies in the Bible is that they tell the truth.

Among the stories about him which record an old

belief that he was a monotheist, and which are preserved in an ancient Jewish book, called the Talmud, are the following.

Terah, the father of Abraham, was a maker and dealer in idols. Being obliged to go from home one day, he left Abraham in charge. An old man came in and asked the price of one of the idols. "Old man," said Abraham, "how old art thou?" "Three-score years," answered the old man. "Threescore years!" said Abraham, "and thou wouldest worship a thing that my father's slaves made in a few hours? Strange that a man of sixty should bow his gray head to a creature such as that." The man, crimsoned with shame, turned away; and then came a grave-looking woman to bring an offering to the gods. "Give it them thyself," said Abraham; "thou wilt see how greedily they will eat it." She did so. Abraham then took a hammer and broke all the idols except the largest, in whose hands he placed the hammer. When Terah returned, he asked angrily what profane wretch had dared thus to abuse the gods. "Why," said Abraham, "during thine absence a woman brought yonder food to the gods and the younger ones began to eat. The old god, enraged at their boldness, took the hammer and smashed them." "Dost thou mock thy aged

father?" said Terah; "do I not know that they can neither eat nor move?" "And yet," said Abraham, "thou worshippest them, and wouldest have me worship them too." The story adds that Terah, in his rage, sent Abraham to be judged for his crime by the king.

Nimrod asked Abraham: You will not adore the idols of your father. Then pray to fire.

Abraham: Why may I not pray to water, which will quench fire?

Nimrod: Be it so: pray to water.

Abraham: But why not to the clouds which hold the water?

Nimrod: Well, then, pray to the clouds.

Abraham: Why not to the wind, which drives the clouds before it?

Nimrod: Then pray to the wind.

Abraham: Be not angry, O King—I cannot pray to the fire or the water or the clouds or the wind, but to the Creator who made them: him only will I worship.

On another occasion, "Abraham left a cave in which he had dwelt and stood on the face of the desert. And when he saw the sun shining in all its glory, he was filled with wonder; and he thought, 'Surely the sun is God the Creator,' and he knelt down and

worshipped the sun. But when evening came, the sun went down in the west, and Abraham said, 'No, the Author of creation cannot set.' Now the moon arose in the east, and the stars looked out of the sky. Then said Abraham, 'This moon must indeed be God, and all the stars are his host.' And kneeling down he adored the moon. But the moon set also, and from the east appeared once more the sun's bright face. Then said Abraham, 'Verily these heavenly bodies are no gods, for they obey law; I will worship him whose laws they obey.'"

XXXII

GREAT TEACHERS

In an ancient writing whose rare beauty should have given it a place among the books making up the Bible, there is a roll call of the great and worthy in Hebrew history which begins with words I have already quoted: "Let us now praise famous men and our fathers that begat us." They are a fit text to what can only be briefly told about a few out of the many who have appeared at different times and in different countries, chiefly in Asia, moving their fellows by their lofty teaching to live pure lives in thought and deed. Such was their power over others, and so deep the reverence and love which they begat, that for hundreds of years millions of mankind have looked up to them as their saviours, and, in a few cases, have worshipped them as gods made "in the likeness of men."

Among the chief of these were Gautama the Buddha in India; Confucius in China; Zoroaster in Persia; Jesus Christ in Syria; and Mohammed in Arabia. Their disciples treasured their sayings, which were

handed on from one generation to another, and, in the course of time, written down, becoming the scriptures or sacred writings of the great religions. So sacred are some of these books held to be that it was believed that they were the very words of God himself. There lived other men, before and after those just named, such as the great lawgivers and prophets among the Jews, and the great philosophers among the Greeks and Romans and Chinese; and last, but not least, those of whom the high-souled Pharaoh Akhnaton is a type; numbering a host of saintly men and women who made it their life's aim to strive to banish evil and to inspire others to noble endeavors. Their story, which is often one of self-sacrifice unto death for the good of others, should be read by everyone, especially by young people, for thereby the lesson is learned in early years that goodness is better than greatness, and of more abiding worth. To say this is not to underrate the value of deeds wrought by the heroes of every age and country who, in their hatred of tyranny, and of the cruelty and wrong which it brings, have fought and died for holy causes. Sometimes the freedom won for the body has made possible the freedom of the mind; and the battle against oppression, which alone justifies war, has made easier the path of the great teachers.

But it is one of the saddest things in this world's history that religion itself has often been a cause of war and bloodshed between those who could not agree whether this or that creed was true. And the more sad because we now know that they fought and persecuted one another over things which neither of them could prove to be either true or false; even about things some of which we know are wholly false, and often, as we now see, too absurd to quarrel about. But, with the growth of knowledge, men have come to agreement that there can be no greater crime than to imprison or kill anyone because he cannot or will not believe what we believe. Knowledge has also brought home to us the fact that the religion we profess is due to the country in which we live. If we had been born in India, we should have been Hindoos or Mohammedans; if we had been born in Burmah or Tibet we should have been Buddhists, and if we had been born in Central Africa we should have been idol and fetish worshippers and something lower than these.

> Religion is the mind's complexion,
> Governed by birth, not self-election;
> And the great mass of us adore
> Just as our fathers did before.

XXXIII

SACRED BOOKS

If this book has taught you nothing else, I hope you have learned from it that the different beliefs of mankind are worthy of attention. Few of us will live here for more than sixty or seventy years; and when we take off the time needed for eating and working and sleeping, there is not so very much left wherein to learn a little about the world in which we dwell. We do wisely to use some spare moments in asking how other eyes have looked upon the beauty and the mystery around, and what it has said to their hearts.

It is not so very long ago that good-meaning men looked upon the various religions of the heathen world, as it is called, as wholly the work of man, and if studied at all, to be studied as proofs of his having been born in sin, and therefore full of hatred to whatever is good and true. But wiser and more thoughtful men felt that we ought to try and understand these religions and see what kind of answers others, besides our own, have given to the questions about God, how the wide

universe began, and about life and death, which we all ask. These answers may be feeble and dim, but since they are the best that could be had, they demand our sympathy. We do not make our own religion more true by calling other religions false, nor do we make it worth less to us by admitting the good that may be in them. And this is one of the lessons taught by even a slight knowledge of the sacred books of other faiths, some older than our own, and still believed in by hundreds of millions of mankind, who look upon them as the word of God, and therefore, as dear to them as our Bible should be dear to us. In them are the precepts which they have been taught to obey, the prayers and hymns which have the full rich meaning age alone can give, and which have brought comfort to sorrowful hearts that no other scriptures could bring. It is true that all sacred books contain many fables, myths, legends, and coarse ideas about God; and from these the Bible and no other ancient books are free, because no other ideas were possible at the time when they were written; and the errors that they contain do not make less true whatever of truth they hold. It is a world-wide belief that words possess magic power over both gods and men, and this explains why sacred books and other writings are used as charms and fortune

tellers. Verses from the Bible are copied out on slips and then one of these is chosen at random; or the Bible itself is opened and the verse which first catches the eye is taken as an omen of what should be done. To discover a thief, a key is hung from it and swung round, and when Psalm 50, v. 18 is read, it is believed to turn to the culprit. On leaving the house, it is a Persian custom to recite a verse from the Koran, and then blow in the direction of the four points of the compass, to chase away the devil, And a story is told of a man in Africa who was thought to be very holy, and who earned his living by writing prayers on a board, washing them off, and selling the water.

Any account which I give you of the different sacred writings would be chiefly a list of very long names, and it is better that I should quote a few passages from them.

I do not include the Bible, because you can read it for yourselves, or, at least, such portions of it as are suited for young people. For until boys and girls have reached their "teens," they should read only selected passages, of which, in their beauty and instructiveness, there is enough and to spare. The reason of this is that the greater part of the Bible—mainly because it is an Eastern book—is very difficult

to understand, and needs to be explained in the light of the times when, and the places where, its various contents were written. It contains biographies and histories, all of which are full of myths and legends; poems, proverbs, letters, and so forth, each the work of different men, some of whom lived hundreds of years apart; and who therefore could have no knowledge that what they wrote would form part of one volume. The oldest writings date from a time when coarse and often revolting ideas prevailed about God, while the later date from a time when those ideas had given place to purer and nobler. But what each wrote is of highest value, for they were honest men and set down truthfully all that they heard and believed, while much that some of them wrote will never be surpassed in the beauty of its language and the loftiness of its teaching. And it was a very happy event that the Bible was translated at a time when our English language had well nigh reached perfection in its simplicity, charm, and power. Here are two gems that need no setting.

"And Jacob served seven years for Rachel, and they seemed unto him but a few days for the love he had to her." (Genesis xxix, 20.)

"And when the child was grown, it fell on a day that he went out to his father to the reapers. And he said unto his father,

'My head, my head.' And he said to a lad, 'Carry him to his mother.' And when he had taken him, and brought him to his mother, he sat on her knees till noon, and then died." (2 Kings, IV, 18–20.)

But I fear that it is becoming now-a-days a neglected book. One reason of this is that people have given up the old and absurd belief that every word of it, from Genesis to Revelation, was inspired by God himself, a belief held by other people about their sacred books, as, for example, the ancient Jews about the Old Testament, and the Brahmans about the Vedas. To neglect the Bible for that reason is to remain ignorant of a large part of the world's history, and of writings some of which have a place among the immortal works of the human mind.

And now to a few quotations from other Scriptures.

1. From the *Vedas*, the sacred books of the Brahmans, some of which are nearly four thousand years old.

In the beginning there arose the source of golden light.

He was the only born Lord of all that is.

He stablished the earth and this sky; who is the God to whom we shall offer our sacrifice?

He who gives life, He who gives strength; whose blessing all the bright gods desire; whose shadow is immortality; whose shadow is death.

Who is the God to whom we shall offer sacrifice?

He who through His power is the only King of the breathing and awakening world; He whose power these snowy mountains and the sea and distant river proclaim.

He through whom the heaven was established—nay, the highest heaven; He who measured out the light in the air. . .

Let me not yet, O Varuna, enter into the house of clay. Have mercy, Almighty, have mercy!

Through want of strength, have I done wrong. Have mercy, Almighty, have mercy!

Whenever we men, O Varuna, commit an offence before the heavenly host, whenever we break the law through thoughtlessness, have mercy, Almighty, have mercy!

Purity of body comes by water; purity of mind by truthfulness. The lamp of truth is a lamp of the wise.

Commit no wrong, saying, "I am poor;" if you do, you will become poorer still.

Let him not do evil to others who desires not that sorrows should pursue himself.

2. From the *Tripitaka;* the sacred books of the Buddhists. Gautama the Buddha was born six hundred years before Christ.

Conquer anger by mildness, evil by good, falsehood by truth.

Be not desirous of discovering the faults of others, but zealously guard against your own.

He is a more noble warrior who subdues himself, than he who in battle conquers thousands. (Compare with this Proverbs XVI, 32.)

To the virtuous all is pure. Therefore think not that going unclothed, fasting, or lying on the ground, can make the impure pure, for the mind will still remain the same.

Reverence and humility, cheerfulness and gratitude, listening

in due season to the Law—this is the highest blessing. Long-suffering, gentleness of speech, sight of godly men, conversation upon the Law in due season—this is the highest blessing. He whose spirit is stirred not when he is touched by the stones of the world, but abides unsorrowing, undefiled and happy—this is the highest blessing.

To dwell in the neighbourhood of the good; to fear the remembrance of good deeds; to have a soul filled with right desires; these are excellencies. To be pure, temperate, to persevere in good deeds; these are excellencies.

Buddha said: A man who foolishly does me wrong, I will return to him my ungrudging love: the more evil comes from him, the more good shall go from me; the fragrance of these good deeds always redounding to me; the harm of the slandering words returning to him.

The gem of the sky is the sun; the gem of the house is the child; in the assembly shines the brow of the wise man.

3. From the *Zend-Avesta*, the ancient Persian Scriptures collected about three hundred years before Christ.

Purity is for man, next to life, the greatest good—that purity is procured by the law of Mazda to him who cleanses his own self with Good Thoughts, Words, and Deeds.

Thou shouldest not become presumptuous through any happiness of the world, for the happiness of the world is such like as a cloud that comes on a rainy day, which one does not ward off by any hill.

This I ask Thee, O Ahaara! tell me aright, that I may ponder these which are thy revelations, O Mazda! and the words which were asked of Thee by Thy Good Mind within us, and that whereby we may attain, through Thine Order, to this life's perfection. Yea, how may my soul with joyfulness increase in goodness?

From a Hymn to the Sun.

Thou, Maker of the Day, art most near to the lustre of God.
Thou art a symbol of his grandeur, a beacon of his glory;
Clothing the stars with the garment of thy splendour:
I seek him whose shadow thou art
The Lord that giveth harmony to worlds,
Light of Lights!
That he may illumine my soul with pure light.

Here are a couple of sayings by two wise men of Persia.

Hafiz (XIVth cent. A. D.): The object of all religions is alike. All men seek their beloved, and all the world is love's dwelling; why talk of a mosque or a church?

Faizi (Xth cent. A. D.): Whoso would carelessly tread one worm that crawls on earth, that heartless one is darkly alienate from God, but he who embraceth all things with his love, to dwell with him God bursts all bounds, above, below.

4. From the *Koran*, the Mohammedan Bible (compiled about the VIIth century A. D.), and the *Sayings of Mohammed:*

Lay not burdens on any but thyself.

Be good to parents, and to kindred and to orphans, and to the poor, and to a neighbour, be he of your own people or a stranger, and to a fellow-traveller, and to the wayfarer, and to the slave.

Which is the great name of God?

Tell me his least name and I will return to thee his greatest. One day of his is equal to a thousand years of man's. O thou whose light manifests itself in the vesture of the world! thy

names are manifest in the nature of man! thy knowledge shows itself in the science of thy prophets; thy bounty is manifest in the bounty of great hearts. Recognize the mark of God in every place . . . the world is the image of God. . . . What! shall not man's heart repose in the thought of God? They who believe and do the things that be right, blessedness awaiteth them.

A man's true wealth is the good he has done in this world. When he dies, mortals will ask what property has he left behind him, but angels will ask, what good deeds hast thou sent before thee?

O my son, enjoin the right and forbid the wrong . . . let thy pace be modest, and lower thy voice, for the least pleasing of voices is surely the voice of asses.

Thou, O Lord, art one with Supreme Wisdom. . . . Thou art pure, eternal, and very great; Thou art smaller than the smallest, and greater than the greatest; Unknown, all-knowing, Thou art the true one.

This world is not for him who doth not worship. Know that the worship of spiritual wisdom is far better than the worship with offerings of things. There is not anything to be compared with wisdom for purity.

He whose heart is pure and good, who looks on every creature as his friend and who loves every soul as his own, who wishes to do good, and has abandoned vanity—in his heart dwells the Lord of life.

5. On the walls of the old temples of Egypt hymns in honour of the gods were sometimes written, and this one to Aton, composed by Akhnaton, recalls like language in the Book of Psalms.

How manifold are all Thy works. . . . Thou didst create

the Earth according to Thy desire—men, all cattle, all that are upon the earth. . . . Thou makest the seasons. . . . Thou hast made the distant heaven in order to rise therein . . . dawning, shining afar off, and returning. The world is in Thy hand, even as Thou hast made them. When Thou hast risen they live; when thou settest they die. By Thee man liveth.

Three thousand five hundred years before Christ a great teacher of morals lived in Egypt, and under the title of the *Instructions of Ptah-Hotep* there is preserved wise counsel as to our duty one to another.

Let thy face be bright what time thou livest. He that causeth strife cometh himself to sorrow. It is a man's kindly acts that are remembered of him in the years after his life.

Quarrelling in place of friendship is a foolish thing.

Exalt not thy heart that it be not brought low.

He that is just flourisheth; truth goeth in his footsteps, and he maketh habitations not in the dwellings of covetousness.

Here are a few sayings from some famous men of old. From the *Sayings of Confucius*, the Chinese sage who lived in the fourth century before Christ.

Some one asked him, Should injury be recompensed with kindness? The Sage answered, With what then will you recompense it? Recompense kindness with kindness, and injury with justice. Tsze-Kung asked him, Is there one word that may serve as a rule for one's whole life? Confucius answered, Is not Reciprocity such a word? What you do not wish done to yourself, do not to others.

To see what is right, and not to do it, is want of courage.

Shall I tell you what true knowledge is? When you know,

to know that you know, and when you do not know, to know that you do not know. Pursue the study of virtue as though you could never reach your goal, and were afraid of losing the ground already gained.

The real fault is to have faults and not try to amend them.

Homer (1,000 B. C.?).

He who hearkens to the voice of gods is heard by them.

Kindness is the better part.

When men respect each other, more are saved than slain.

Blacker than the gates of hell is he who speaketh one thing with his lips but hideth another in his heart.

Hesiod (800 B. C.?).

The man who wrongs another harms himself.

Best is that man who thinketh on all things for himself, taking heed to that which shall be better afterwards and in the end; and good, too, is he who hearkeneth to good advice; but whoso neither thinketh himself nor layeth to heart the words of another—he is a useless man.

Work is no reproach: the reproach is idleness.

Pindar (Vth Cent. B. C.).

The road of virtue is direct and leads to a good end.

The days that follow are the truest witnesses and time befriends the righteous.

Socrates (IVth Cent. B. C.) quoting an old Greek proverb.

Know Thyself.

Plato (IVth Cent. B. C.) makes Socrates speak thus:

While I have life and strength, I shall never cease from the practice and teaching of philosophy, exhorting any one whom I meet and saying to him after my manner: You, my friend, are you not ashamed of heaping up the greatest amount of money and honour and reputation, and caring so little about wisdom and truth and the greatest improvement of the soul, which you never heed or regard at all? And I shall repeat the same words to every one I meet, young and old.

To him who has an eye to see, there can be no fairer sight than that of a man who combines moral beauty of soul with outward beauty of form.

There can be none so fair.

And you will grant that what is fairest is loveliest?

Undoubtedly that is.

You should be to others what you think I should be to you.

Heraclitus (about Vth Cent. B. C.).

Eyes and ears are bad witnesses to men if they have souls that understand not their language.

Wisdom is one thing. It is to know the thought by which all things are steered through all things.

You cannot step twice into the same rivers, for fresh waters are ever flowing in upon you.

The waking have one common world, but the sleeping turn aside each into a world of his own.

One is ten thousand to me, if he be the best.

Men pray to images, as if one were to talk with a man's house, knowing not what gods or heroes are.

They vainly purify themselves by defiling themselves with blood, just as if one who had slipped into the mud were to wash his feet in mud. Any man who marked him doing thus, would deem him mad.

Empedocles (about Vth Cent. B. C.).

It is not possible for us to set God before our eyes, or to lay hold of him with our hands. For he is not furnished with a human head on his body, two branches do not sprout from his shoulders, he has no feet, no swift knees, but he is only a sacred and unutterable mind flashing through the whole world with rapid thoughts.

By Love do we see Love, and Hate by grievous Hate. If supported on thy steadfast mind, thou wilt contemplate these things with good intent and faultless care, then shalt thou have all these things in abundance, and thou shalt gain many others from them. For these things grow of themselves into thy heart, where is each man's true nature.

Blessed is the man who has gained the riches of divine wisdom.

Aristophanes (IVth Cent. B. C.).

If to my words you give good heed
My counsel you abide,
A goodly chest and clearest skin
Are yours and shoulders wide.
Few words will lie upon your tongue,
But sound you'll be in limb and lung.

Lucretius (Roman poet: 1st Cent. B. C.).

Sweeter by far on Wisdom's rampired height
To pace serene the porches of the light,
And thence look down—down on the purblind herd
Seeking and never finding in the night
The road to peace—the peace that all might hold,
But yet is missed by young men and by old,
Lost in the strife for palaces and powers,
The axes, and the lictors and the gold.

Cicero (a great Roman lawyer, 1st Cent. B. C.).

My own conscience is of more importance to me than what men say.

Nature ordains that a man should wish the good of every man, whoever he may be, and for this very reason—that he is a man.

The worship of the gods is the best and the most chaste, the holiest and the most religious, when we reverence them ever with purity and perfect innocence both of thought and word.

Seneca (a Roman citizen, born at Cordova, in Spain, 1st Cent. after Christ).

We must live as if we were living in the sight of all men; we must think as though some one could and can gaze into our inmost breast.

Even from a corner it is possible to spring up into heaven; rise, therefore, and form thyself into a fashion worthy of God.

You must live for another if you wish to live for yourself.

Would you please the gods? Then be like them. He worships them enough who imitates them. (Plato said, "He who would be dear to God must be like Him, and such as He is.")

So live with men as if God saw you; so speak with God as if men heard you.

Epictetus (a Greek freedman in Rome. 1st Cent. after Christ).

From your mind cast out sadness, fear, desire, envy, avarice, intemperance. But it is only possible to cast them out by looking to God, by devotion to His commands. If a man could worthily realize that we are all in a special sense the children of God, and that God is the Father of both men and gods, he would think nothing mean or vulgar about himself.

At all times we ought to praise the greatness of God. For

what else can I, a lame old man, do than sing hymns to God? If I were a nightingale, I should act as a nightingale, and if a swan, as a swan; but since I am a rational being, it behooves me to praise God, and I exhort you to join in the same song.

What ought not to be done, do not even think of doing.

When asked how a man could grieve his enemy, Epictetus answered, By preparing himself to act in the noblest way.

Marcus Aurelius (Roman Emperor. 2nd Cent. after Christ).

Does man's life offer anything higher than justice, truth, wisdom and courage, in a word, than the understanding at peace with itself?

Do not live as though you had a thousand years before you. The common due impends, while you live, and while you may, be good. Love your work, however humble, and find in it refreshment. In the morning, when you feel loth to rise, fall back upon the thought, I am rising for man's work. Why make a grievance of setting about that for which I was born, and for sake of which I have been brought into the world?

Be like the headland on which the billows dash themselves continually: but it stands fast, till about its base the boiling breakers are lulled to rest.

As the horse that runs, the hound that hunts, the bee that hives its honey, so the man who does the kindness does not raise a shout, but passes on to the next act, as a vine to the bearing of clusters for next season.

Men exist for one another. Teach them then, or bear with them. Not to do likewise is the best revenge.

No mere talk of what the good man should be. Be it!

Sallustius (IVth Cent. after Christ).

Virtue in the region of Reason is Wisdom; in the region of

Fight is Courage; in the region of Desire it is Temperance; the virtue of the whole soul is Righteousness.

From the *Golden Verses* of *Hierocles* (an Alexandrian Greek, who lived about the middle of the Vth Cent. after Christ).

Let not soft sleep come upon thy eyelids till thou has pondered the deeds of the day: Wherein have I sinned? What work have I done? What left undone that I was bound to do?

Beginning at the first, go through even unto the last; and then let thy heart smite thee for the evil deed, but rejoice in the good work.

Know as far as is permitted thee, that Nature in all things is like unto herself, that thou mayest not hope that of which there is no hope, nor be ignorant of that which may be.

But do thou be of good cheer, for they are God's kindred whom holy Nature leadeth onward, and in due order sheweth them all things.

Perhaps more than enough has been quoted from these wise men of old (and much could be quoted from many others) "pagans," as they are called; a name which once was a term of pity or reproach, but by which we now mean that they were not Christians. These brief sentences from their writings show that among civilized peoples there have never been lacking those who strove to lead others into ways of happiness and paths of peace and that, as counsel for the right conduct and best use of life, these maxims of the wise

who wrote thousands of years ago have never been excelled, and remain true for all time.

But I must here make end, taking to heart what one of the earliest of the Roman poets says about overmuch preaching—

> "A little moralizing's good—a little;
> I like a taste, but not a bath of it."

XXXIV

SUMMARY

MAN'S brain has made him what he is as Worker, and, still more, as Thinker.

In the course of ages that cannot be reckoned, he became more and more human, until he reached a stage when he was able to put questions and frame answers about his surroundings. Believing these to be moved as he was moved by what we call spirit, ever a thing of mystery to him as it is to us, he spoke of them as alive, and hence all the myths about them which he invented describe them acting as he acted, only in a more powerful and terrifying way. All through his history we find fear of the unknown ruling his life, and only as knowledge of things dispelled dread did fear give place to trust.

In ignorance, born of fear, lies the source of his attitude towards the crowd of spirits with which his imagination peopled heavens and earth. Regarding them as all-powerful to help or harm him, he devised various ways of getting into friendly relation with them, and above all with those on whom he believed

his food-supply to depend. Hence charms, spells, sacrifices, and prayers and all other modes of what may be included under the word worship. And there is no dead or living thing, from stars to spiders, which the bewildered mind of man has not at one time or place and another, made an object of worship.

Perhaps most widespread of all, is his worship of the departed. Death is not to the savage a natural event, and his belief that the dead live on was quickened by his dreams in which they appeared, and which to him are real events. Hence, everywhere, the framing of notions of a spirit-filled world, and of what goes on therein.

Although a belief in good and evil spirits, in ministering angels and demons survives among the higher races, this has taken a second place wherever man's ideas about the great gods have advanced. And this advance has been in the degree that he has risen from the animal to the highest human, and to the perception that goodness is better than greatness. Thus in reading the sacred books of the various religions, we may trace man's progress from belief in gods who revel in the blood of human and animal sacrifices to an All-merciful Being whom men serve best in doing justly and in rendering service to others less happily placed than themselves.

PART III

MAN THE DISCOVERER AND INVENTOR

XXXV

MODERN SCIENCE

It was at Miletus, in Ionia, on the Coast of Asia Minor, that, five hundred years before Christ, science and the freedom to say what we think were born. That city was the abode of a small group of philosophers ("lovers of wisdom," as that word means) who were not content to accept without question the old tales and myths about the beginnings of things which they had been told. For the Greeks, like all other civilized peoples, had passed through savage and barbaric stages, and preserved traces of these in their beliefs, manners and customs. So these wise men started on the quest after the causes of things, whence they began, and how they came to be what they are. They grasped the idea that the cosmos (Greek, meaning *order*, and applied to the universe) was derived from a single substance. One said that this was water; another, fire; others, vapour, mind, and so on. These were guesses, for such they could only be in that far away time, but they put others on the path of enquiry which led to certainties.

The influence of these Ionians, some of whom suffered persecution and death for their opinions (Lat. *opinor*, to think), upon all after ages has never waned, although many centuries passed before its results were reached. How progress was stopped for well nigh a thousand years in Europe is a story too long to be told here, and a few words must suffice to speak of the chief cause of arrest. Between three and four hundred years after the birth of Christ the religion which bears his name had spread over a large part of the Roman Empire, and the Bishop of Rome, who for fourteen hundred years has been called the Pope, from Pappas, meaning Father, had gained so much power that as that Empire fell into decay, he became by degrees a sort of Pope-King, ruling both the bodies and souls of men. "The Papacy," said an old writer, "is no other than the ghost of the deceased Roman Empire sitting crowned upon the grave thereof." The Roman Catholic Church, of which the Pope is head, set up a claim to have been founded by Jesus Christ, and hence that whatever it taught not only about religion, but about the heavens and the earth and everything else, must be accepted as true. Those who dared to deny this were called heretics and were imprisoned, or put to cruel death, and threatened with the torments of hell

to be suffered by them for ever and ever. One of them, named Bruno, was burnt at Rome in 1600 for saying that the earth travels round the sun. Yet the priests who did these dreadful things were not so much cruel as misguided. They caused heretics to be put to death to prevent them from leading others astray to the peril of their souls; this they honestly believed. So it came to pass that persecution, even between the various sects of Christians, went on for centuries.

It is only during the last three hundred years that the path to freedom of enquiry has been opened, never to be closed again. Now-a-days we may say aloud what we think, and, so long as no one is thereby harmed, act upon it. But even that freedom has been won only within the last few years and it is far from being universal. There are still numbers of timid and ignorant people who will tell you that it is wrong to doubt this or that thing, and who, when they hear anyone called a "free-thinker," look on him as one to be shunned. Give no heed to the talk of these foolish men and women; could such have their way, the world would never progress. You for whom this book is written are old enough to try to find out things for yourselves and not to believe what you are told as true simply because people say that it is so. But you must keep your

ears open to those who have been at great labour to find out the facts about things by testing and proving them, since only a few of us have time or skill to do this. Such are those who have made the sun and stars, the rocks of the earth, and living things, the study of many years, and who are agreed in what they tell us. These learned men we may wholly trust.

This does not apply to matters which we are told to believe, but which cannot be tested or proved, such as the creeds of different religions, and what each of these tells us about the spirit world. It is over these, concerning which no man can be certain, that quarrels and persecutions have risen, and it is about these that we must all maintain, as our most sacred right, freedom to think.

To keep in mind the difference between things concerning which knowledge is to be had and things which must remain matters of faith, will save us all the pain and loss of time in unlearning what we might otherwise accept as truth, but which may turn out to be error.

You will learn from what is said above that although the impulse to questions about the Universe, as we call it (from Latin words meaning "turned into one")

came from Ionia twenty-four centuries ago, what we really know about it has been found out within the last three centuries; and most of this within only the last sixty years.

We must keep in mind the difference between what is *discovered* and what is *invented*. To *discover* is to uncover or find anything for the first time, as, for example, that the sun is a globe, or that New Zealand is an island. To *invent* is to design and make something that did not exist before, as, for example, steam-engines and sewing machines. Some discoveries, as that of the sun's distance from the earth, enlarge our knowledge by adding only to the treasures of the mind; others, like the discovery of America, are of the deepest importance to human progress in material things. Some inventions, as of toys, add only to amusement, while others, like that of machinery, are of immense value in adding to the stock of comfort and wealth. But without discovery there can be no invention: if the power of steam had not been found out, there would have been no trains or steamships. And all advance has been not only by slow stages, but by making use of what has gone before.

Putting into as few words as I can what, thus far, is known about the *Universe;* it is made up of *Matter*

and *Motion*, each of which can never be destroyed, while each is always undergoing change. *Matter* exists in different but always connected states; it is either solid or liquid; gaseous or—what is the most wonderful and, as yet, most mysterious of all—ethereal. In an ethereal state matter is everywhere present, filling the vacant spaces between all bodies, and also the spaces between the particles of which all bodies are composed; and it transmits every kind of force. But it has never been seen nor handled nor measured.

Motion acts in a twofold way, 1, pushing or drawing together the particles of things, and also all bodies; and 2, pulling or drawing them asunder.

We know nothing about the beginnings of things; nothing as to whence they are or why they are. We can only guess as to what they are or what they have become, by observing what they do. For example, by examining the nature and watching the movements of the various heavenly bodies, astronomers and chemists are agreed that they were formed from nebulous or cloud-like masses of matter. Such was the beginning of our sun and his system of planets, moons, comets, and meteors or shooting-stars. He is a star, but not the largest or the most brilliant of the stars scattered in millions throughout space, most of them

at so vast a distance from us that their light, travelling at the speed of nearly twelve millions of miles a minute, takes years to reach us. That from Alpha Centauri, the nearest, takes three and a half years; that from Sirius, the brightest, takes twelve years. And as the sun and other stars are made of the same matter, and are ruled by the same laws, there being no chance or disorder anywhere, the story of his origin and that of all the smaller bodies of the stellar systems is to be taken as true of everything in the universe. Not that they are all alike, for "one star differeth from another star in glory," some being old, others middle-aged, and others new. But these differences do not concern us here, and to explain them in detail would only confuse what I want to keep clear.

Untold millions of years ago, the matter of which the solar system is composed existed in the form of a nebula spread over an enormous space. Its particles were drawn slowly together by the mysterious force called gravitation which binds all things together, and as they struck against one another the movements of the whole nebula were quickened; it spun round and round and became broken up into knot-like white-hot masses. The biggest of these was at the centre and became the sun, while from the others, shot-off or

squeezed-out, as it may be said, from him, were formed the planets which, in their turn, shot-off smaller masses, becoming moons. The comets and meteors were expelled with such enormous force and in such directions, that they have remained outcast bodies ever since; but revolving in fixed orbits. As for the planets which are much larger than the Earth—Jupiter, Saturn, Uranus and Neptune—these are still very hot, shining by their own light, and if they should cool down to a state making life possible, their vast distance from the sun would prevent their getting enough of his light and heat to maintain it. As for the smaller planets, Mercury and Venus, they are so grilled by him that only such creatures as the fabled salamander, which was said to be a human-like animal, living always in fire, could exist in them. We know nothing as to what goes on in Mars; but if there are any plants and animals there, they are wholly unlike any that are known on the Earth.

As one of the smaller planets, the Earth became cool enough millions of years ago to form a solid rind or crust, some of the rocks of which are fire-fused and the others water-laid. As the cooling went on, some of the vapour in which the Earth was swathed condensed into the marvellous and complex fluid called water,

which, filling the cracks and hollows of the crust, formed seas and oceans. Other vapours or gases formed the air which Mother Earth gives us as "the breath of life." How and when life itself began we do not know; that is one of the many secrets about which all sorts of guesses have been, and are still, made. But we know that the first life-forms had their beginning in water and that they were very simple in structure and soft-bodied; hence no traces of them would be left. Plants appeared before animals, because they alone live and grow by feeding on what we call dead matter. Thus the Earth is the universal "Mother,"

> "For all men live from birth
> On what the horny hand wrings out
> From udders of the Earth."

When we reach the rocks in which the fossil remains, as they are called (from Lat. *fossilis*, "dug out"), of plants and animals are found, their advance in structure is proven. The lowest kinds are imbedded in the deeper and older rocks, and the highest in the uppermost and newer rocks. The Table following will make this clear: at the bottom is a humble seaweed; at the top is Man the Worker, Thinker and Discoverer.

All life on the earth depends on the sun, and this has set men of science calculating how long he will

FIG. 26.—TABLE OF STRATIFIED ROCKS

EPOCH	SYSTEM
QUATERNARY.	13. RECENT.....
	12. PLIOCENE.....
TERTIARY OR CAINOZOIC.	11. MIOCENE.....
	10. EOCENE.....
	9. CRETACEOUS.....
SECONDARY OR MESOZOIC	8. JURASSIC OR OOLITIC.....
	7. TRIASSIC.....
	6. PERMIAN.....
	5. CARBONIFEROUS.....
	4. DEVONIAN.....
PRIMARY OR PALAEOZOIC	3. SILURIAN.....
	2. CAMBRIAN.....
ARCHAEAN OR EOZOIC	1. PRE-CAMBRIAN.....

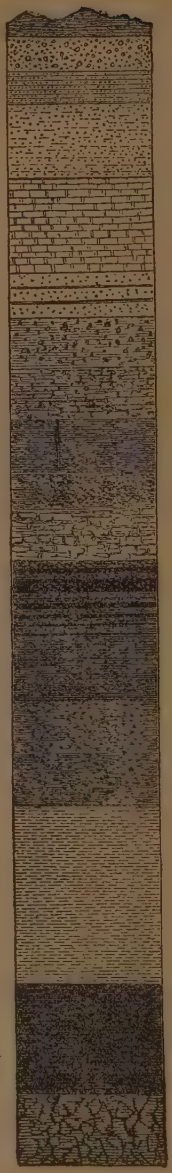


FIG. 26.—TABLE OF STRATIFIED ROCKS—*Continued*

13. Cave-dwelling Man.

12. Mastodon.

11. 1. Univalve.
2. Conifer.

10. 1. Nummulite.
2. Univalve.

9. 1. Pearl Mussel.
2. Ammonite, new form.
3. Bivalve.
4. Ammonite, new form.

8. 1. Bivalve.
2. Bivalve.
3. Cycad.
4. Univalve.

7. 1. Fish-lizard.
2. Ammonite.
3. Sea-lily.
4. Footprints of *Labyrinthodon.* (Amphibian).

6. 1. Bivalve.
2. Lampshell.
3. Ganoid.

5. 1. Precursors of Amphibian.
2. Club-moss.
3. Horsetail Plants.

4. Ganoid Fish.

3. 1, 2, 3. Lampshells.
4. Trilobite.

2. Seaweed.

1. No fossils

last as a heat and light-giving body. Without doubt, he will remain that for millions of years, so we need not trouble about it, but the question as to whence the sun gets his enormous power is full of interest, and it is worth our while to know what has been lately found out about it. One of the most marvellous discoveries, made only fifteen years ago, is that of radium, an element which has the power (probably shared by matter universally) of emitting rays, but at an incredibly rapid speed, nevertheless, taking from two thousand to two thousand five hundred years to lose one half of its power. It comes from another element named uranium, the wonder about which is that it breaks down at so slow a rate that it does not change into radium for eight thousand millions years! And as there is uranium in the sun, whence we may infer that radium is also present there, he has a store on which to draw to keep him going an infinite number of years. The passage from one element into another element is one of many proofs that there may be one primitive stuff whence all the various forms of matter have come; showing that the Greeks of Ionia were on the right path, and that even the old alchemists were not wrong in thinking that one element could be transmuted or changed into another.

I have said that the sun and planets and all the stars are made of the same stuff, and the way by which this was discovered is like a romance, except that, unlike romances, it is every word true. The instrument that tells the story is named the *spectroscope*.

The lovely colours of the rainbow are due to the sunbeams, as they strike the raindrops, becoming "refracted," that is, broken up into a ribbon-like ray of colours from red to violet. The same effect appears when the beam falls on a dewdrop, or on a prism of glass or crystal. Beyond the red rays there are heat rays which are felt, but not seen, and beyond the violet rays there are chemical rays, also unseen, by means of which photographs are taken. All these rays, both seen and unseen, make up what is called a "spectrum" (Lat. *spectrum*, "an appearance.") More than a century ago this spectrum, when looked into closely, was found to be crossed by hundreds of dark lines (since increased to thousands), the positions of which were carefully measured. But some years passed before their meaning was discovered.

When we sing a note near a piano, it gives back the same sound, which, so to speak, it has absorbed. And when an element from the sun's hot interior passes through his vaporous atmosphere, a dark line appears,

because the atmosphere has absorbed the element. Light thus answers to light, as sound answers to sound: both are due to wave-like motion; sound to air-waves, and light to ether-waves. The lines are not really dark, but appear so only because they are overpowered by the brightness of their surroundings. It was already known that when sodium, hydrogen, and other elementary substances are made white hot, they show coloured lines whose position never changes, and that when they are heated to a gaseous or vaporous state those lines appear black. So the next step was to put them in such a position with the lines in the sun's spectrum that they could be compared, and the result was to show that they fitted in, one above the other, exactly. Hence is proved the existence of sodium, hydrogen, magnesium, iron (which has nearly five hundred lines), copper and other elements in a gaseous state in the sun's atmosphere. And with such differences as, from their spectra, we know exist between them, it is the same with the stars: they and the sun, broadly speaking, are made of like matter, while so delicate are the instruments which astronomers have invented that they are able to tell by the slight shifting of the lines in the spectra of stars whether these far-distant bodies are coming nearer, or travelling away

from, the Earth. Then, by putting what is called a dry plate in the telescope so that the two revolve together, and leaving it there for some hours, the images of numberless stars that the eye cannot see are photographed on the plate.

Wonderful too, as "seeing the invisible," is the discovery of certain rays produced by electrical currents sent through vacuum tubes by which our bones can be seen through the flesh. And if a bullet or needle be lodged in the body, these *X rays*, as they are named, will show where they are, so that the surgeon can extract them. Then there are the wonders of the *telegraph*. Electric batteries and wires are used to carry messages round the world in a few seconds; while still more wonderful, is *telegraphing without wires;* the space-filling ether, which is moved in all directions by electric waves, taking the place of the wires. In speaking through the *telephone* our voice does not travel, but is reproduced by means of a disc in motion at one end, the electric current setting up the same vibrations on a disc at the other end. In the still more marvellous *phonograph* we speak into a tube closed in with a thin metal disc to which is attached a steel point moving backwards and forwards, and making, as we talk or sing into the instrument, a number of small marks on

a cylinder of hard wax which turns and travels so that the marks can never be entangled one with another. When the cylinder is put back to its starting point, whatever was said or sung is reproduced, as we saw in the example of the piano returning the note sung by anyone near it. And as the cylinders last many years, the voices of people long dead are thus marvellously reproduced by the *gramophone.* The "living pictures" shown by the *cinematograph* are obtained by taking the photographs at so rapid a rate every second as to secure the effect of real life and real motion.

But to tell of all that man has discovered and invented would fill a big book, and I can find room for only another example which is too striking to be left out.

Although it is more than a hundred years since steam power was brought into use to propel ships and carriages, it is interesting to note that until then no progress in the means of getting from one place to another had been made since the immensely far-off times when man yoked the oxen and rode or drove the horse. So novel was the idea of railroads and steamers, that only ninety years ago, clever people laughed at it, and refused "to trust themselves to such machines going at

such a rate." Whereby hangs the lesson not to rashly pronounce judgments upon what is new. As for aeroplanes and water planes, these may one day be made so perfect that people may travel through the air without risk.

The story of discovery of the oneness of living things; of man's place among animals; of his great age on the earth; and of the ways in which the higher races of mankind advanced from savage to civilized stages; has been told in the earlier chapters of this little book. These discoveries are for each one of us the most important that have ever been made, because they bear upon all the thoughts and acts whereby our life is shaped for good or evil.

XXXVI

CONCLUSION

I HOPE that you will learn from the foregoing that the facts of science are not, as some think, dry, lifeless things. They are living things, filling with sweetest poetry the ear that listens to them, and with fadeless harmony of colours the eye that looks upon them.

They not only give us these higher pleasures which endure, but they bring daily bread and health and comfort to thousands, who but for knowledge of them would have lived pitiful lives.

I am offering you good counsel in advising you to use a certain portion of your time in studying one branch of science. It matters not which you choose so far as wonder, beauty, and truth are concerned, for astronomy, chemistry, geology, plant and animal life, alike possess these in such abundance that the years will be too short to exhaust them.

With the mind thus stored, many an hour, otherwise dull, will be "filled with music;" many a star-lit night, otherwise unheeded, will shine with familiar lights;

many a landscape, bald and ugly to the unseeing eye, marked with lines of beauty hitherto invisible. And if, as I think this story shows, man's progress largely depends upon himself, how careful should we be to do nothing that will be a hindrance. Our knowledge is no blessing to us, unless we have learned to use it well and wisely, and learned too that, with it only, life is not complete.

But all this was said hundreds of years ago in language whose truth and beauty I have no power to approach:

RECEIVE MY INSTRUCTION AND NOT SILVER, AND KNOWLEDGE RATHER THAN CHOICE GOLD. PROVERBS, VIII, 10.

HAPPY IS THE MAN THAT FINDETH WISDOM AND THE MAN THAT GETTETH UNDERSTANDING. III, 13.

SHE IS MORE PRECIOUS THAN RUBIES, AND ALL THE THINGS THOU CANST DESIRE ARE NOT TO BE COMPARED UNTO HER. III, 15.

HER WAYS ARE WAYS OF PLEASANTNESS, AND ALL HER PATHS ARE PEACE. III, 17.

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